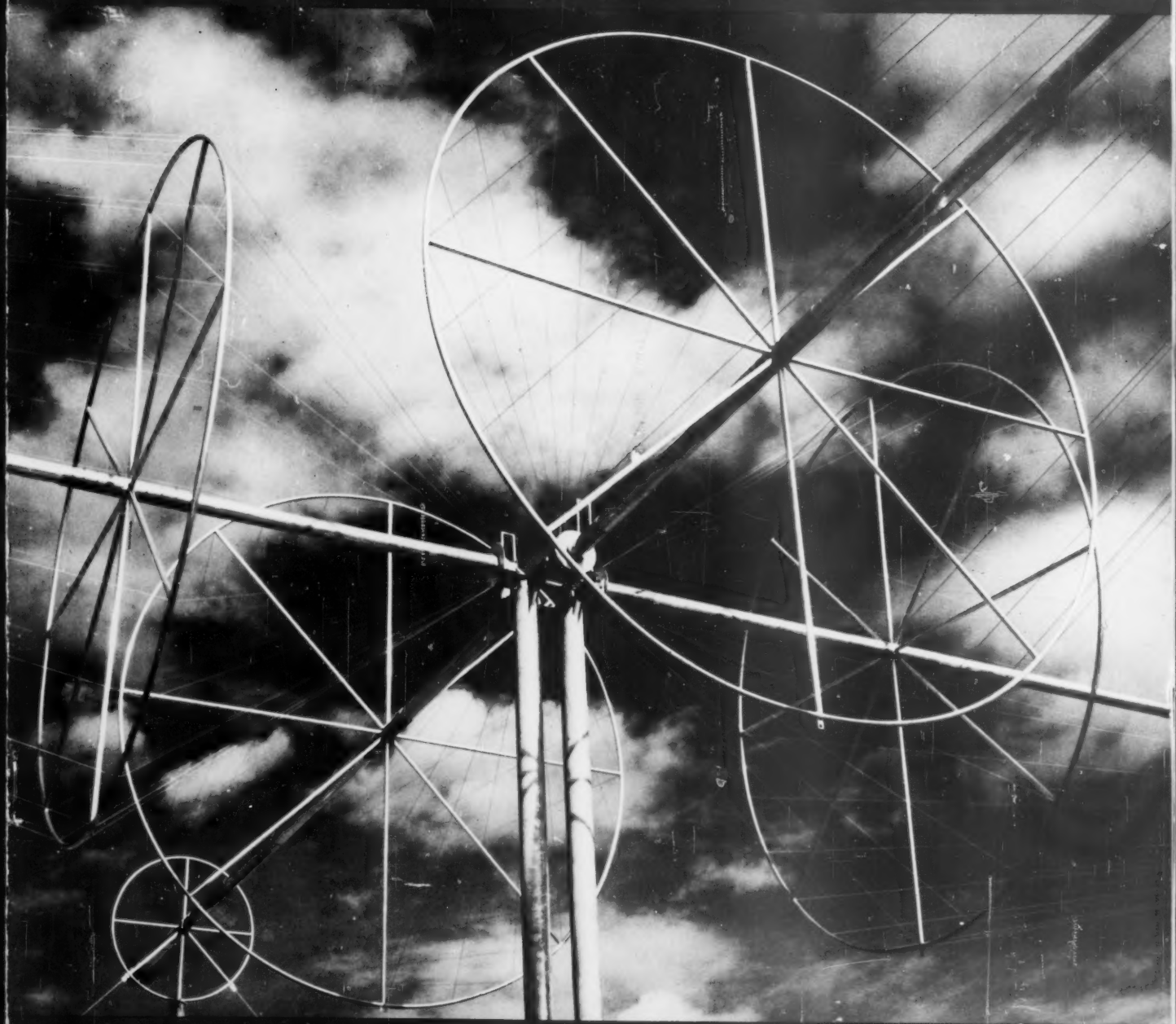
A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Incorporating *International Commerce*

OCTOBER 18, 1971

Commerce Today

Coming Developments in Business and Technology



Breakthrough In Radio Communications

President Nixon recently has made two significant statements on the importance of profits in the American economy and for the American people.

The first excerpts below are from his television address to the nation on October 7, 1971. They are followed by excerpts from his remarks to the Detroit Economic Club on September 23, 1971. ***(See details of Phase II of the President's New Economic Program on Page 4.)***

Profits—Key To More American Jobs

Let us recognize an unassailable fact of economic life. All Americans will benefit from more profits. More profits fuel the expansion that generates more jobs.

More profits mean more investment, which will make our goods more competitive in America and in the world.

And more profits means there will be more tax revenue to pay for the programs that help people in need. That's why higher profits in the American economy will be good for every person in America.

. . . when you control prices and costs there is automatically some control on profits. Second, when there is control of prices and costs, the only way that there can be more profits is for the industry involved to expand, and that means more jobs and we think that is good.

. . . who are those who get the profits, who benefits from profits? Well, first the government is the major beneficiary. One dollar of every two in corporate profits goes to the government. We would not have the money, for example, for education, to help the poor, the poverty programs, and all the rest unless it were for the fact that we had profits, of which 50 percent go to the Federal Government for its taxes.

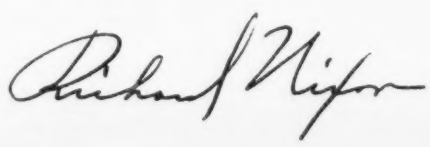
Then there are 100 million Americans who share in profits, either as stockholders, as members of mutual funds or who are beneficiaries of profits in one way or another.

And beyond that, the major reasons that profits are essential to a strong growing economy is this: Where are jobs going to come from? How is it going to be possible for the American worker who receives—and we hope this will always be the case—the highest wage in the world, real wage, approximately twice as much as his next competitors in the world—how is it going to be possible for him to compete with other workers in the world? Only if he has the equipment and the machinery, the organization that gives him the competitive advantage over those from abroad.

Where do we get that? It is only through profits that industry will buy the new plant, the new equipment that will make our workers more productive and therefore more competitive in the world.

And so putting it quite bluntly, let me say I am for profits because I believe that more profits means more jobs. And at this particular time we need more jobs.

It is very easy to say let's control profits, let's limit profits and let's have an excess profits tax and, of course, the argument for saying that is that you are taking care of the big man and helping the little man. But when you really look at what makes this economy work, when you really look at what produces jobs, it comes from profits being plowed back into industry and making American workers thereby more competitive, and thereby producing more jobs.



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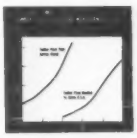

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COVER: *This circular array of antennas at a national research facility east of Boulder, Colo., enables scientists to transmit a 100-million-watt radio beam into the ionosphere and investigate that part of the upper atmosphere essential to telecommunications. Story begins on Page 9.*

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ECONOMIC
HIGHLIGHTS

September Decline In Wholesale Prices Demonstrates Effectiveness Of Freeze

Economic Highlights is prepared by Dr. Harold C. Passer, Assistant Secretary for Economic Affairs, and is based on the latest economic indicators (see charts on adjoining page).

The September decline in the Wholesale Price Index—and particularly the drop in the crucial industrial component—provides impressive evidence that the temporary wage-price freeze has put an effective brake on inflation. The drop in the index, the largest in five years, reversed a strong uptrend. This is the best news on the price front in a long time, and it indicates the business community's response to the Administration's initial appeal to hold the line on prices.

The Wholesale Price Index had been expected to respond more quickly to the New Economic Program than the Consumer Price Index, which was discussed in the October 4 Economic Highlights.

The September drop in the WPI was 0.4 percent, or 4.8 percent on an annual rate basis, and the decline was spread over a large number of categories. Since many prices were kept from rising by the freeze, the decreases in other prices caused the overall index to recede.

An interesting development was a 1.7 percent plunge in the index of agricultural products even though most of these commodities are not subject to the freeze. Thus, supply conditions apparently accounted for this sharp drop, which amounts to more than 20 percent on an annual rate basis. Prices of vegetables plummeted, and substantially lower prices were reported for livestock, grains, and eggs.

The industrial commodities component, on a seasonally adjusted basis, moved downward for the first time since 1964, primarily because of price decreases recorded for passenger cars and trucks. Also important were widespread declines in machinery and equipment prices.

The third chart shows how the WPI, like most other price measures, was stable in the first half of the 1960s, and then started to climb as wartime pressures were added to an economy that was already approaching full employment. Wholesale prices continued to advance in the last half of the decade except for a brief period of stability during the slowdown of 1967.

In the first half of the 1960s, wages increased about 3 percent per year or about as much as productivity. During the second half of the 1960s, however, productivity increased less (2 percent per year) while average wages increased more (7 percent per year). This resulted in sharp increases in unit labor costs and in prices.

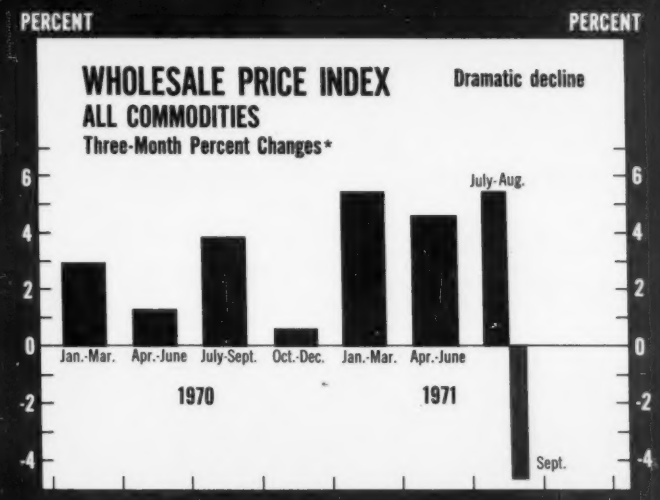
The excellent performance of the WPI in September does not mean that the battle against inflation has been won. A new challenge will arise as the freeze expires in mid-November and President Nixon's wage-price stabilization program goes into operation.

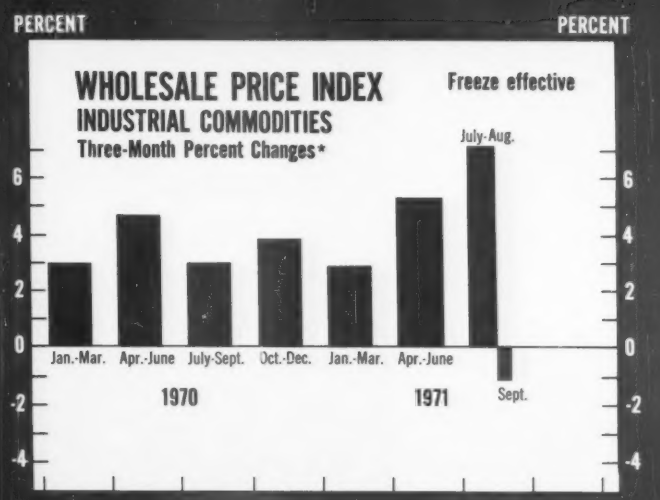
Other economic data

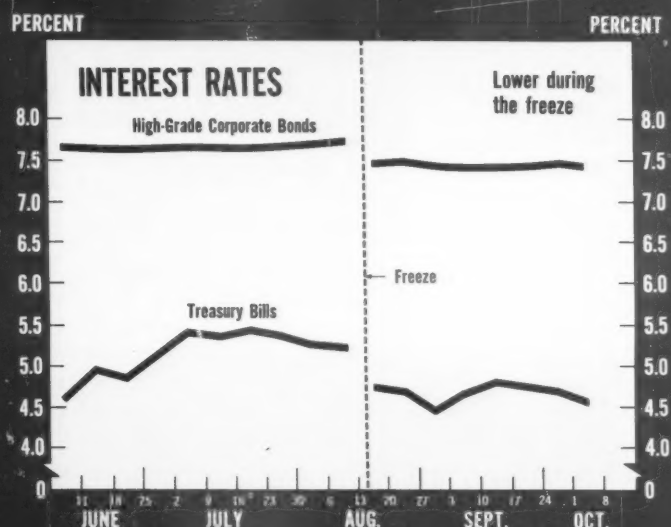
Interest rates, although not formally covered by President Nixon's freeze order, dropped sharply after the announcement of the freeze and remain below the mid-August level. A major reason for the drop was the fading of inflationary expectations as a result of the actions taken and proposed under the New Economic Program.

The unemployment rate decreased only slightly in September. The number of persons employed, however, has advanced for the third straight month and is now one million higher than in June.

Latest Indicators







*Annual rates
All monthly data seasonally adjusted
Interest rates are averages of daily rates

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Vol. II, No. 1
October 18 1971

Nixon Pledges Fight Against U.S. Inflation 'Until We Win It'

Cites Early Successes Of New Economic Policy; Praises U.S. Citizens' Willingness To Cooperate

". . . the wage-price freeze has been remarkably successful," President Nixon reported this month.

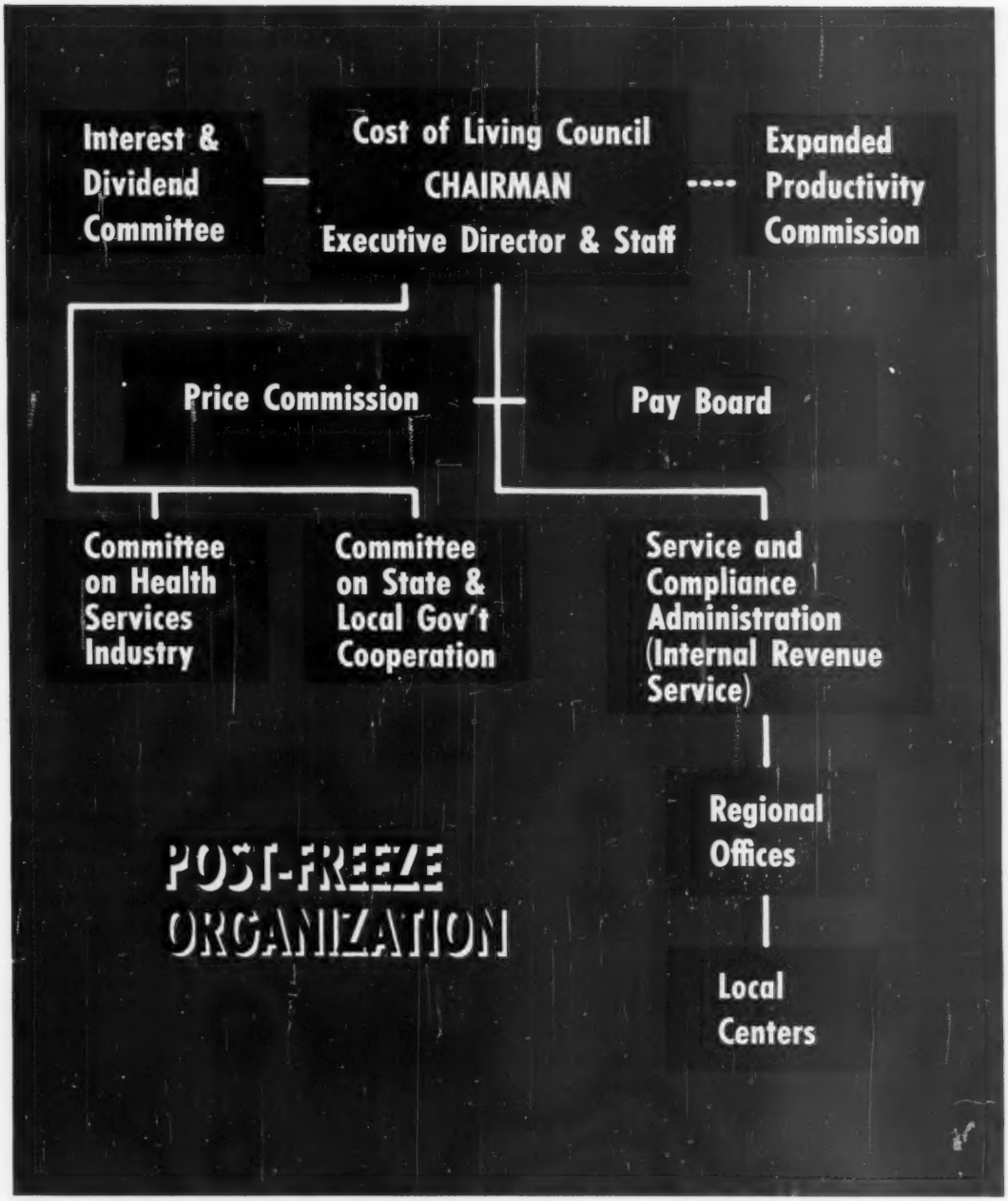
President Nixon has set in motion the machinery that will guide the Nation through the second phase of his new economic program to stabilize the economy and create more jobs.

In an address to the country Oct. 7, the President outlined the anti-inflation policies that will go into effect Nov. 14, at the end of the current wage-price freeze.

The fight to win

Said Mr. Nixon, "We began this battle against inflation for the purpose of winning, and we are going to stay in it until we do win it."

The President also made note of the data showing the success of the first part of the New Economic Program. "On the inflation front," he said, "I can report to you that the wage-price freeze has been remarkedly successful. Wholesale prices in September posted the biggest decline in five years. And the price of industrial commodities has gone down for the first time in seven years."



Another plus for the first stage of the President's new economic policy was announced the morning after Mr. Nixon's speech, when the Federal Government reported the Nation's unemployment dipped slightly last month, while total employment rose substantially. Total unemployment dropped by 221,000 and total employment increased by 300,000. Employment has increased by more than one million since June.

Mr. Nixon gave the credit for this success to the American people, who, he pointed out, had shown "a willingness to cooperate in the campaign against inflation."

The President said his goal was to reduce the rate of price increases to about 2 to 3 percent per year by the end of 1972—about half of the pre-freeze rate.

Under the post-freeze plan, the Cost of Living Council will continue to develop anti-inflation policies and goals. In addition, it will assume new responsibilities in backing up two new boards on wages and prices.

These boards will play important roles in

the stabilization plan. The first, the Price Commission, will be comprised of seven members, all of whom will be from outside of the government. This Commission will develop yardsticks on prices and will be empowered to restrain price and rent increases to the necessary minimum and to prevent windfall profits.

Tri-partite board

The Pay Board will be made up of five members each from labor, management and the public. Its purpose will be to stop inflationary wage and salary increases, and all elements of compensation, including wages, salaries and fringe benefits, will be subject to its regulation.

"Both the Price Commission and the Pay Board," said the President, "will seek voluntary cooperation from business and labor, but they will be backed by the authority of law to make their decisions stick."

The President emphasized that the staffs of both boards will be small, in order to make stabilization work "not by an army of bureaucrats, but by an all-voluntary army of patriotic citizens in every walk of life."

In addition, Mr. Nixon is appointing a Committee on Interest and Dividends, headed by Federal Reserve Board Chairman Arthur Burns, to apply anti-inflation yardsticks in both these areas. One prime objective is to prevent sharp rises in interest rates that would cut off expansion in housing and other critical areas.

Part of Mr. Nixon's proposals also include new boards to zero in on rising medical costs and climbing state and local taxes. Both these boards, the Committee on the Health Services Industry and the Committee on State and Local Government Cooperation, will advise the Cost of Living Council, assist the Price Commission and the Pay Board, and help to stimulate voluntary cooperation by both State and local governments and individual citizens.

To assist the Cost of Living Council and the other agencies that will be administering the post-freeze program, the Productivity Commission will be expanded by the addition of representatives of agriculture and State and local governments. The Commission will consult with the Cost of Living Council on the contributions of productivity to the economic stabilization program.

The Productivity Commission was established to make recommendations to the President concerning the means for stimulating economic growth and improving the productivity of America industry and labor. This group presently consists of representatives from labor, industry, the public and the Federal Government.

The legal basis on which the post-freeze program is being established is the Economic Stabilization Act of 1970—the legislation upon which the present wage-price freeze also rests.

This Act grants authority to the President to issue and enforce regulations over prices, wages and rents to control inflation. The present Act expires on April 30, 1972. In order to carry on the second stage of the anti-inflation effort, the President is asking Congress to extend this Act one year until April 30, 1973. He is also asking Congress for the inclusion of stand-by authority to control interest rates and dividends, although it is not expected that this authority will be needed. During the current freeze, interest rates have remained below the pre-August 15 level.

Seeking the solution

In seeking a solution to the present economic problems, before deciding on his proposals, Mr. Nixon consulted with all sectors of the economy. The President and other officials of the Administration met with approximately 600 representatives of nearly 300 organizations, including labor, business, the financial community, the housing industry and consumer groups. The decisions embodied in the post-freeze program are designed to take into account the requirements and needs of all these groups.

Secretary of the Treasury John M. Connally, who is also Chairman of the Cost of Living Council, said in a press conference Oct. 8 that only 3000 persons will be needed to administer the program, and he expects the cooperation the present freeze has been getting from the American people to continue under the new program.

Background information

White House officials in discussing the background information that led to the President's proposals for Phase II, said that it was important to remember that the durability of the program required that it should interfere as little as possible with the operation of the economy. One implication of this is that the price, wage and rent standards must

be sufficiently flexible to avoid pressures that stop production and to avoid distortions in the price-wage structure that seriously impair efficiency.

These requirements in turn mean that the criteria and standards for inflation restraint must not be too rigorous. Many of the adjustments required for the sake of equity and production will be upward, and since it is at least administratively difficult to get many prices down, these adjustments will be more feasible within an average price level that is initially rising somewhat, even though at a much reduced rate.

How long?

When asked how long the post-freeze program would last, Secretary Connally said that this depended on the American people. "There must be a basic agreement and feeling throughout the country," he said, "that the inflation rise has been broken. When the program reaches the point where the people understand that they can expect stability in the American economy, this is the time to stop."

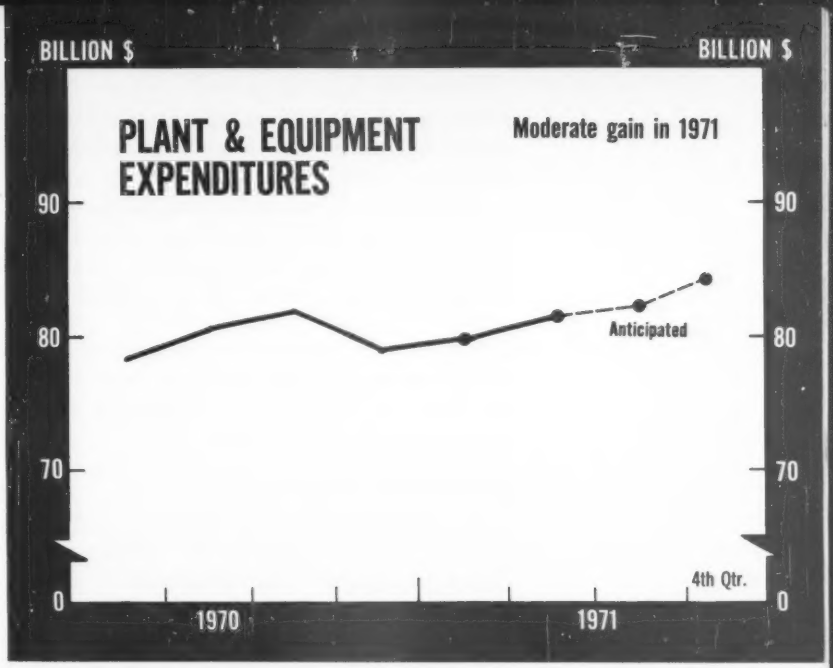
Connally referred to the new plan as only a "way station" towards the goal of achieving a stable economy.

In response to a question, he said that in historical perspective, corporate profits in 1970 were very low. (See chart on page 8.)

In discussing the proposal for an investment tax credit to encourage expansion of plant and equipment and create more jobs—a measure already approved by the House—Secretary Connally noted the percentage of equipment now in use that is more than 10 years old is considerably higher than the proportion five years ago.

Under the post-freeze program, the Price Commission and the Pay Board will set their own standards and criteria. They will have 37 days in which to establish these. It was also noted that the decisions of these boards will be final, and will not be appealed to the Cost of Living Council. While the Council will not veto the decisions of the boards, it will function as it is now set up—as an arm of the President—and it will review actions by the boards.

Reporting to the boards from business, for both wage and price considerations, will be broken down into three categories. Under the first, several of the larger businesses will be required to file pre-notification forms of any wage or price changes. A second category will not be required to pre-notification forms, but businesses must report all changes. The third, under which the largest number of businesses in the country will fall, involves no pre-notification or reporting, but each company in this category must keep complete records and be ready for spot checks by either board.



Secretary Stans said that to reach the goal set for reducing the annual average rate of increase of the cost of living to 2 to 3 percent by the end of 1972 would require that some prices rise by less than 2 to 3 percent, that many not rise at all and that some decline. The Secretary, who is a member of the Cost of Living Council, added that the country's achievement of this goal would be a great victory over inflation.

Business cooperation

Secretary Stans announced 100 percent cooperation from the 1,250 largest American business firms who were asked not to increase shareowner dividend rates.

The companies—banks, utilities and manufacturers—had received telegrams from the Secretary in September requesting that they refrain from increasing dividend rates during the wage/price freeze period.

"In addition to freezing wages and prices for 90 days," the telegram said, "the President's August 15 message called upon corporations to extend the wage-price freeze to all dividends (rates). This is interpreted to mean that the dividend rate shall not exceed that for the most recent dividend

period prior to August 15. I would appreciate a telegram confirming your willingness to comply with the dividend (rate) freeze."

At a recent press conference the Secretary applauded the more than 97 percent of business firms that had then agreed to maintain dividend rates. Several firms needed additional time to respond—because of the absence of chief executives, impending board of directors meetings, and the like—but by the close of business Oct. 7 all had agreed to comply with the request.

Post-freeze support

A national system of regional and local service and compliance centers will be established to support the administration of the post-freeze program, drawing primarily on the resources of the Internal Revenue system. The local and regional centers will provide information to the public, investigate complaints, conduct independent monitoring activities, and review requests for exemptions, exceptions, or other adjustments in accordance with guidelines issued by the Price Commission and the Pay Board.

The field centers will provide initial review of reports from the post-reporting sectors and collect data for the analysis of cases arising in the prenotification sector. Investigations, complaints, and requests for exceptions and exemptions will be handled by the centers. The heads of these centers will be delegated the necessary authority to make initial determinations, subject to appeal to the Board or Commission.

The Service and Compliance Administration of the Internal Revenue Service will have approximately 360 local service and compliance centers in the Internal Revenue Service district and subdistrict offices. The centers will be principally responsible for enforcement in the nonreporting sectors.

All enforcement cases will be handled by the Department of Justice after initial investigation by Service and Compliance Administration personnel. Referrals of enforcement cases for legal remedies would require the approval of the cognizant board or commission.

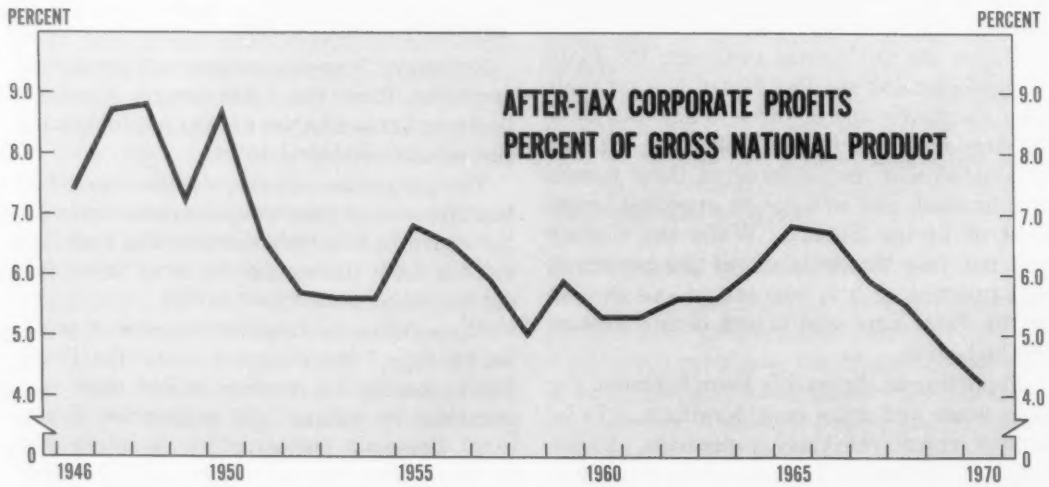
In summing up the actions to stop the rise in the cost of living, President Nixon listed what the Government would do and what it would not do:

In summary

The President said: "We will permit some adjustments of prices and wages, adjustments that fairness and equity demand; but we will not permit inflation to flare up again.

"We will concentrate on those major portions of the economy that are the primary causes of inflation; but we will not hesitate to take action against any part of the economy that fails to comply.

"We will continue wage and price restraints until inflationary pressures are brought under control, but we will not make controls a permanent feature of American life. When controls are no longer needed we will get rid of them. We will rely primarily on good faith and voluntary cooperation of the American people to make this program work, but we will not let any selfish interest escape fair enforcement of the law."



Radio Communication Breakthrough Is Seen

Ionospheric Research With High-Powered Beam Should Benefit Telecommunications Industry

A significant breakthrough which should lead to more efficient long-distance radio communications has been made by government scientists conducting ionospheric research at a unique national facility 40 miles east of Boulder, Colo.

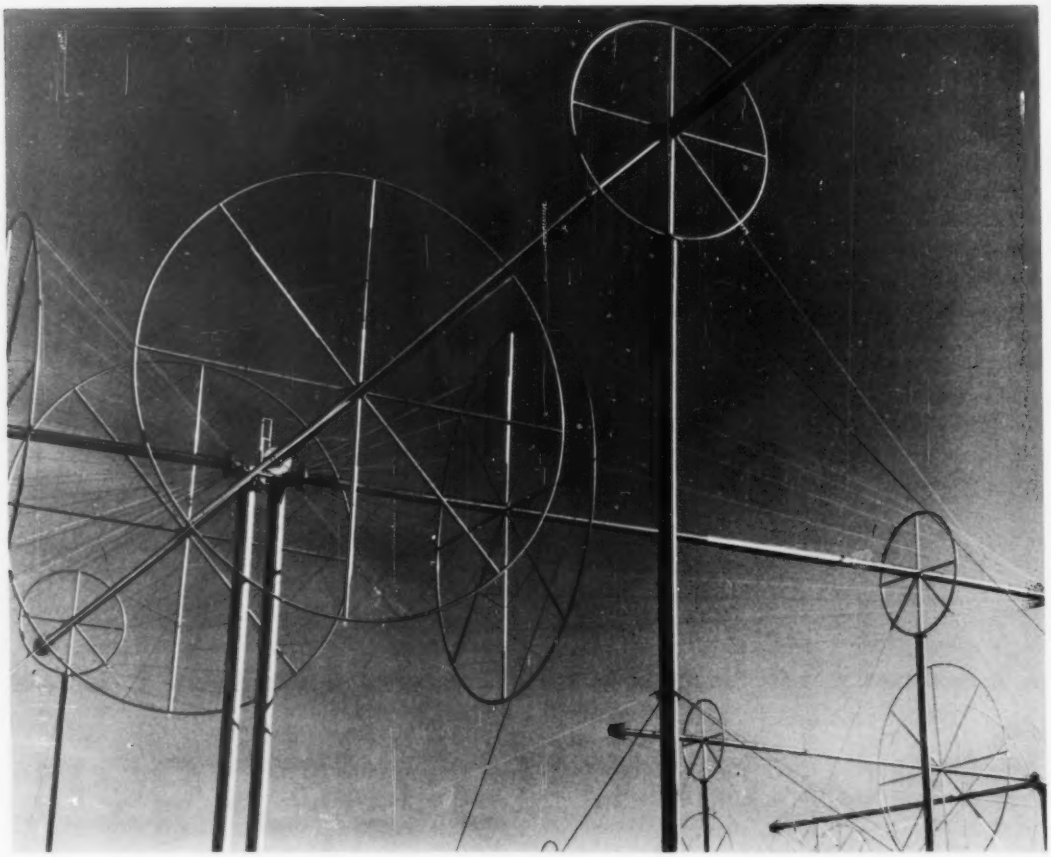
Although the effects on the economy of long-distance communications is now only at best a guess, it seems likely that future radio communications can be vastly improved and that the upper atmosphere will be better understood as a result of this current research project. Insight is also expected into methods for controlling nuclear fusion.

Under the direction of Dr. William F. Utlaut, deputy director of the Institute for Telecommunications Sciences at Commerce's Office of Telecommunications, Boulder, Colo., scientists have been able to obtain striking new scientific knowledge of the ionosphere culminating seven years of planning.

From a section of arid, weed-covered rangeland in eastern Colorado, a 100-million-watt radio beam is being used to direct radio energy vertically toward the upper atmosphere by means of a 360-foot, nine-element circular array of antennas. This modifies the electrical energy level of ions in an egg-shaped area 50-to-100 miles long, extending along lines of the earth's magnetic field and centered at a height of nearly 200 miles.

This technique causes effects which are similar to those created naturally in the upper atmosphere by solar magnetic storms and by acoustical waves generated from giant weather storms on earth. Some of the effects occur within seconds after the radio transmitter is turned on and some occur only after 10 to 20 minutes of illumination. The changes are observed by radio and optical techniques.

When the transmitter is turned off, the



WHEELS OF POWER—*Part of the 360-foot, nine-element circular array of antennas necessary to project a 100-million-watt radio beam into the upper atmosphere by which scientists have made startling discoveries recently near Platteville, Colo. More efficient long-range radio communication is expected.*

modified region returns to its normal state within minutes or hours, depending on time of day and natural conditions.

The effects occur in the ionosphere—that region of the upper atmosphere where a small portion of the gases (up to 1 percent) normally have a slight electrical charge. This ionization is caused primarily by and fluctuates considerably as a result of solar radiation.

Better understanding

Studies of this part of the earth's environment are important because they provide a better understanding of the chemical and physical properties of the upper atmosphere and of the movement of atomic particles in this region. This understanding is needed to help predict the effects of the upper atmosphere on terrestrial and satellite radio communications, on space re-entry vehicles, and possibly, on the lower atmosphere weather.

The ionosphere is important to telecommunication because it bends the longer radio waves back toward earth. This is what makes inexpensive long-distance, short-wave radio communication possible. The ionosphere can also distort the high frequencies used for space communications.

The ionospheric studies are potentially important to other research studying plasma methods of controlling nuclear fusion for power generation. To control this fusion so that it can provide a continuous source of power, it is necessary to know how to contain and modify plasmas. The physical properties of such gases, however, are extremely complex and only slightly understood. In addition to the ionosphere, other plasmas are the sun, other stars, and the gas in a fluorescent tube.

Laboratory analysis of plasmas is hindered by the fact that the electrified gas must be contained in glass tubes or some other device and the interaction of the atomic particles with the container surface complicates analysis of the gas itself. With the new experi-

mental facility in Colorado, the ionosphere can be studied much as a laboratory plasma—through easily controlled procedures which can be repeated at will, readily tested, and which leave no lasting after-effects.

Nuclear fusion is a significant potential source of power since, compared with the atomic power plants of today, it does not leave radioactive wastes, uses a more widely available fuel (hydrogen—the most prevalent element in the universe), and is a more powerful source of energy per unit of mass.

Research of this type is also of considerable interest to astronomy since 99 percent of the universe is estimated to be in some form of plasma—a condition which science generally considers to be the fourth state of matter (after liquid, gas, and solid).

Responsive to recommendations

For these reasons, although the new experimental facility was developed by the Department of Commerce, it is being used for research by other Government agencies and universities. Dr. Utlaut's research is sponsored both by the Department of Commerce and the Advanced Research Projects Agency of the Department of Defense.

The facility which has been built permits Commerce to be responsive to recommendations of various scientific advisory panels that ionospheric research was needed to improve telecommunication systems such as those used for air traffic control. For example, a Department panel of non-government experts reported in 1966 that:

"Perhaps the most important, and possibly most difficult, series of problems requiring study in the HF (high frequency) band are those of describing propagation of waves traveling through the dynamic, irregular ionosphere, and of determining the characteristics of disturbances and perturbations imposed. Answers to these problems are especially important to the effective use of this portion of the spectrum for detection, direction finding, and radar systems, as well as for 'signal design' for transmission."

Located near Platteville, Colo., the transmitting facility is the first new tool for ionospheric research that has been developed in a number of years. It should permit advances in the areas outlined by the Commerce advisory panel, provide a method for predicting the effects produced in the upper atmosphere by future high-power transmitters, and probably permit an estimate of the effects being caused now by the aggregate of all radio transmitters, each of which by itself creates an effect too small to be observed.

Technically, Dr. Utlaut's goal was to develop an extremely high-power, narrow-beam facility which would direct radio energy vertically, to do so at the relatively long wavelengths associated with the high frequency bands, and to make the facility work over a broad range of frequencies.

Dr. William F. Utlaut
Deputy Director, Institute for Telecommunications Sciences

Economically, his problem was to complete the facility in 1970 with a budget defined in 1963.

The needs were met by inventing cheaper and more efficient equipment, by using surplus equipment, and by taking advantage of new products which appeared during the seven-year period.

The three-million-watt power supply is a surplus unit from the Ballistic Missile Early Warning System.

The coaxial lines which carry the energy from the transmitter to the antennas were fabricated of aluminum irrigation tubing at a cost of $5 per foot instead of $25 per foot for copper lines.

The transmitter is one of the highest power

(continuously rated) transmitters in the world. It was designed and constructed by the Commerce Department staff, is simpler than traditional units in electrical and mechanical design, and provides more value per dollar for the radiation and control of high power levels. Its features are being studied by both commercial and government groups.

In operation only about a year, some of the experimental results were entirely unanticipated. The amount of radio energy which would be reflected by the ionosphere was expected to increase. Instead, it rapidly decreased to about a hundredth of the amount reflected before it was illuminated with the high-power transmitter.

Another major surprise was the artificial creation of an occasionally occurring natural phenomena—Spread F. "F" is the letter used to designate the upper region of the ionosphere. Spread F can have a strong and deleterious effect on some types of radio transmission. Although the phenomenon of Spread F has been observed for many years, it has not been known what causes its formation. No one had predicted that the facility would artificially generate Spread F but, since it can now be created at will and studied, new understanding is developing.

Results of the first year's research are reported in the current issue of *Science* by Dr. Utlaut and Dr. Robert Cohen, consultant to the Aeronomy Laboratory of Commerce's National Oceanic and Atmospheric Administration. In it, Utlaut and Cohen state:

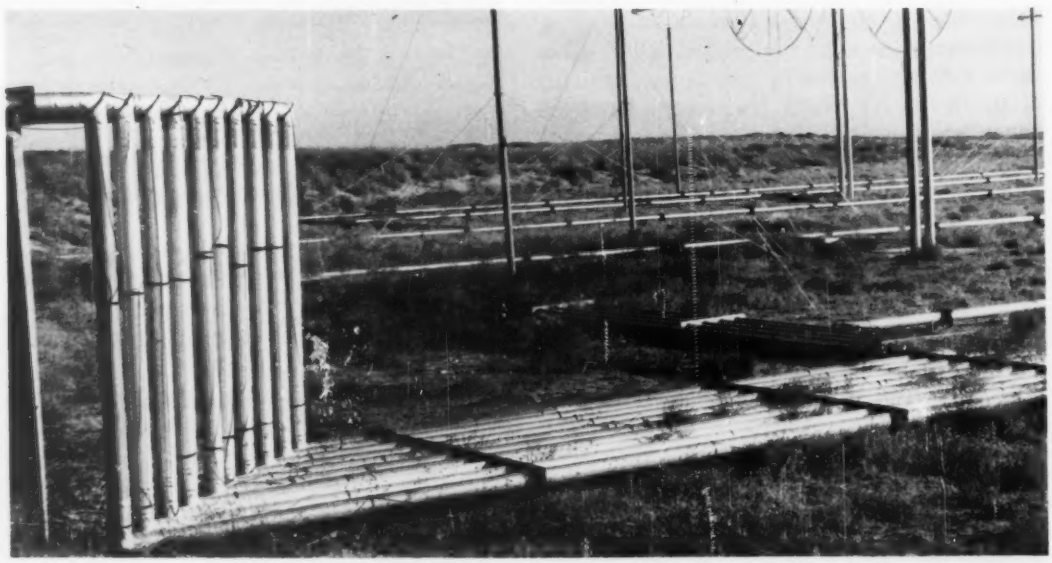
"Since the advent of rockets and satellites, man has employed artificial modification of the ionosphere as a method for studying it. Modification has been accomplished by such means as chemical releases, atomic bombs, and small electron-beam accelerators. The possibility of active experimentation with the ionosphere by temporarily modifying it using high-power, ground-based radio transmissions has long been a desire of researchers.

"By contrast with the other techniques, ionospheric modification using radio transmission at frequencies that interact with the ionosphere represents an attractive and hygienic alternative, in view of its relative controllability, repeatability and rapid reversibility."

Utlaut and Cohen believe that the potential of the new research tool is just beginning to be realized. They expect that experiments even during the next few months will lead to much greater insight into how the facility may advance understanding.

Dr. Henry Booker, long-time international leader in ionospheric research and now chairman of the Department of Applied Physics and Information Science at the University of California, San Diego, has called this project a "triumph of engineering for a scientific purpose."

—Office of Telecommunications



POWER TUBING—*Coaxial lines carry the energy from the transmitter, one of the highest powered in the world, to the antenna wheels through this aluminum irrigation tubing. The three-million watt power supply is a surplus unit from the Ballistic Missile Early Warning System.*

Fighting A Phantom: False Drug Fears Hurt Vets Seeking Jobs

Businessmen Aid Armed Forces Veterans In Employment Search, On-The-Job Training

HOMEWARD BOUND—*Happy members of the 3rd Battalion, 9th Infantry Division board their aircraft at the conclusion of a farewell ceremony at Tan Son Nhut Air Terminal in Saigon. They carry gifts presented them by the Vietnamese citizens.*

Veterans Day 1971 will take on special meaning for thousands of returning veterans. For these young men it will be a time of searching for a place in civilian society—a job.

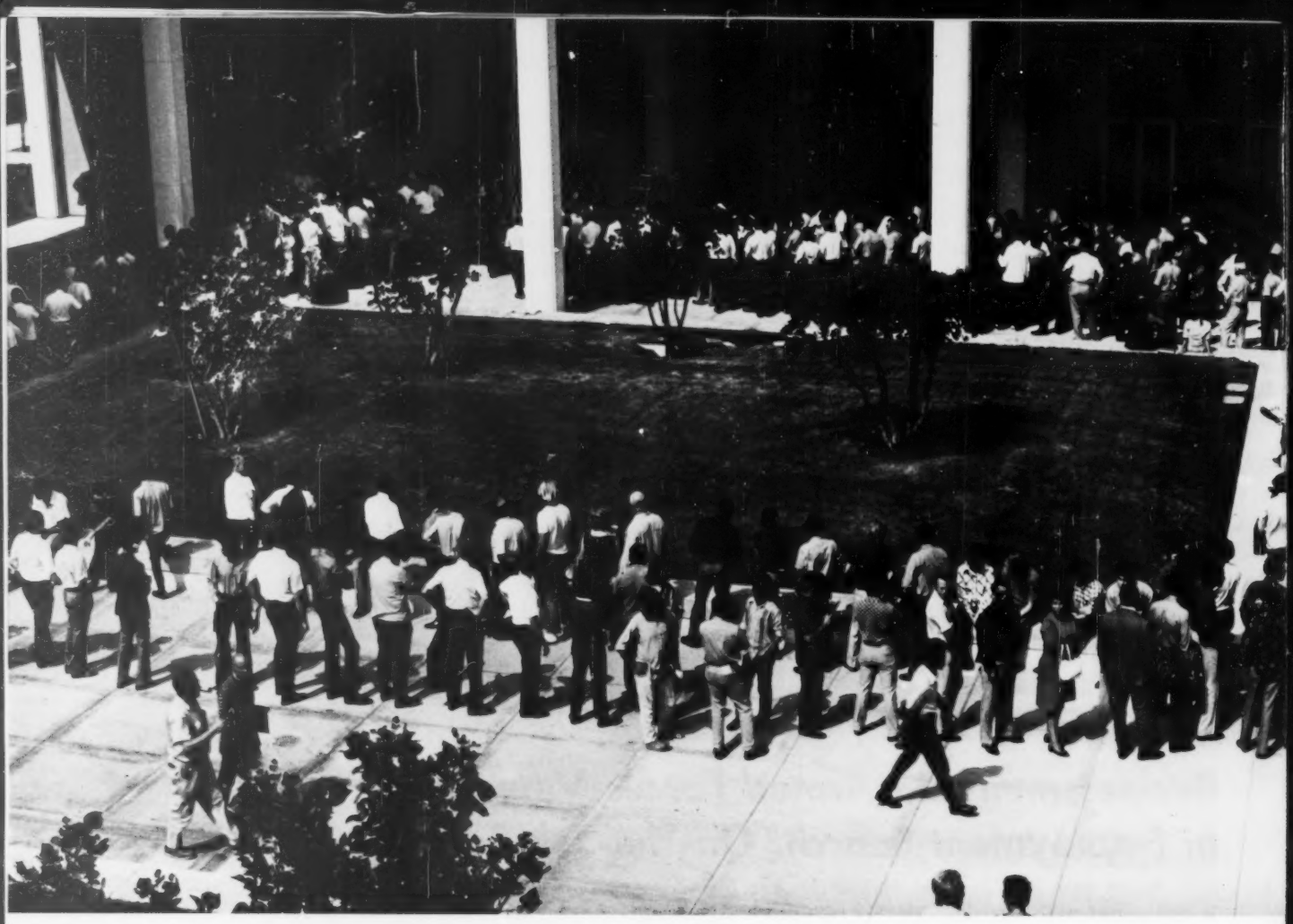
For more than 99 percent who, before discharge, were found to have no drug problem, Veterans Day and the job search may be a bitter experience.

Tragically branded

"Publicity about spreading drug abuse among American soldiers in Viet-Nam has tragically branded thousands of healthy young men who never had a drug problem," according to Charles Daly, Commerce Department representative at Jobs for Veterans.

Noting that recent tests show less than 4 percent of returning Viet-Nam veterans are heroin addicts, Daley said "the mistaken belief of some employers that all Viet-Nam veterans are addicts is hurting many veterans who are being turned away from jobs. . . ."

"We must impress upon employers throughout the country that the vast number



SCENE AT HOME—*Many returning veterans are likely to become a part of this scene as they utilize hundreds of programs in the nationwide effort to find a place for veterans in the labor market.*

of returning Viet Nam veterans are still motivated, loyal and eager to become productive civilians," Daly stressed.

For this majority—those who passed the tests given all servicemen before leaving Viet Nam and proved they have no heroin problem—the Jobs For Veterans Committee is the hub of hundreds of job seeking projects throughout the country, including new training opportunities for returning veterans and increased efforts to encourage veterans and employers to take advantage of these opportunities.

Immediate success

Project Outreach, a massive on-the-job training program launched by the Veterans Administration, has met immediate success among employers. Since the big push began in July some 7,912 new training programs have been developed, Mrs. Patricia Winters, Veterans Administration representative at Jobs For Veterans stated. A total of 12,331 trainees will be able to participate in these programs.

"If this rate continues the program will be a significant contribution to reducing the joblessness rate among veterans," Mrs. Winters continued.

At present, about 82,000 veterans are taking on-the-job training.

Still, hundreds of businessmen—especially the smaller businessmen with less than 50 employees—are not aware of the job training programs available through the Veterans Administration program.

Mrs. Winters pointed out that a state approving agency must sanction training programs in order for an employer to participate and have his trainees receive a monthly al-

lowance under the GI Bill. The name of the state agency varies from state to state.

Any employer with job openings requiring between six months and two years of training, or with apprenticeship training which may last longer than two years, can apply for approval of his program with his state's agency.

Local VA officials are surveying employers in their areas for on-the-job training openings and offering individual assistance to firms interested in starting training programs. In one instance, the VA employees are scanning the classified advertising sections of newspapers for job advertisements that might prosper in an on-the-job training program.

The local VA offices can draw from a new file of prototype on-the-job training programs from throughout the nation. This file started with 34 examples of good, solid plans which would be adaptable to similar businesses in different areas of the country.

The file eliminates time required to draw up programs, an important savings to many small businessmen with limited time.

Mrs. Winters said the Veterans Administration in each community will assist the employers in preparing application and putting it in the appropriate channels.

Requirements in all states for all training projects, other than apprenticeship programs are:

—A "well-defined" job, that the trainee will reach and be offered with reasonable certainty, must exist.

—The beginning wage must be at least half of the "target" or journeyman wage and later be increased to at least 85 percent of that wage by the last month of training.

—Related instruction must be provided when needed.

—The training course must have adequate content, equipment, and instructor.

—Each veteran must be given an individual training agreement, and a record of his progress must be kept.

The human suffering represented by the small percentage of returning Viet-Nam veterans who do have a problem—addiction to narcotics—gets the full attention and concern of the Veterans Administration.

The Veterans Administration's role in the Jobs For Veterans program covers all facets of aiding the returning veteran—drug stricken or not—to find his place in civilian life. *—Jobs For Veterans Program*

VETERANS TRANSITION—*Veteran in a training program at Volkswagen Apprentice Training Center, learns skill in preparation for the transition to civilian employment when he is discharged.*

STUDYING FOR CIVILIAN JOB—*Sp. 5 Mark Connelly, part of Ft. Belvoir's Project Transition, is studying refinishing of furniture in preparation for employment in the civilian labor market.*

Korea Investor Climate Attracting U.S. Partners

New Five-Year Development Blueprint Calls For Private, Public Outlays Of $12 Billion

The Republic of Korea's long-run investment climate continues to be favorable. Factors contributing to this outlook include political stability, rapid economic growth, an abundant labor force, a positive attitude toward foreign investors, and liberal investment incentives.

Spurred by its success with the first (1962-66) and second (1967-71) Five-Year Development Plans, Korea will soon initiate its third development program. The 1972-76 blueprint calls for private and public investment expenditures of about $12 billion.

Industries expected to experience the most rapid expansion include metals, machinery, chemicals, and textiles. To ameliorate its trade imbalance, Korea intends, moreover, to modernize its export industries, diversify exports, and to accelerate, where practical, the substitution of imports with home products.

Meanwhile, the cadence of public and private sector development projects has been stepped up; public and private sector tenders are increasing in number. Work is underway on a major petrochemical complex and an integrated steel plant. Power generation capacity reached 2 million kilowatts last year. It will be expanded to 6 million kilowatts by 1976 when Korea's first nuclear power plant plus other additional conventional plants become operational.

Construction of a network of expressways, highways, and flyovers in certain cities, as well as improvement of secondary backcountry roads, continues. Ground breaking for a subway system for the capital city of Seoul took place recently. Korean Air Lines is adding new domestic and international routes, including one to Honolulu and Los Angeles.

The World Bank has sanctioned a survey of the feasibility of proposed improvements for several Korean ports, including Pusan. The expected completion of the mammoth second tidal basin at Inchon by mid-1972 will upgrade that harbor's capacity significantly and may well spur the growth of a nearby industrial zone.

The Republic of Korea's economic prosperity in recent years has created an unusually

U.S.-KOREAN TALKS—*Reviewing a broad range of commercial subjects at the Fourth United States—Korean Commerce Ministers Meeting Sept. 27-28 in Washington were Secretary of Commerce Stans and (facing him, from left) Dong Jo Kim, Korean Ambassador to the U.S.; Nak Sun Lee, Korean Minister of Commerce and Industry, and Won Chul Oh, Assistant Minister for Mining and Industry.*

favorable environment for foreign investors. Korea's growing economic strength and diversity, however, have also led the Government to be more selective in its choice of investments. All investment applications are reviewed by the Economic Planning Board's Office of Investment Promotion and are evaluated in light of their contribution to Korea's development goals. Export-oriented joint ventures and investments which introduce new technology are particularly sought (see accompanying list).

After a slow beginning in early 1970, American investor interest in Korea again picked up in late 1970; by the end of the year the Korean Government approved new U.S.-involved projects totaling $50.2 million in equity, compared to $11.8 million for 1969. The cumulative U.S. share of total foreign equity investment approved since 1962 rose from 55 percent in 1969 to 60 percent in 1970, for a total value of $128 million. Total Japanese investment for the same period was $57 million with $21 million approved in 1970. Over 80 percent of Korea's total foreign investment has been attributed to the manufacturing sector, with major investments in electronics, oil refining, and the chemical industry.

The Korea Exchange Bank has recently issued a revised edition of* The Businessman's Guide to Korea *which is of particular assistance to U.S. firms interested in investment in Korea. Reference copies are available at any U.S. Department of Commerce Field Office. Individual copies may be obtained from the Far East Division, BIC-892, U.S. Department of Commerce, Washington, D.C. 20230.

Various investment incentives and guarantees are provided under the Foreign Capital Inducement Law promulgated in 1966 and other related government decrees and regulations. Some of the more important provisions are:

1) Corporate income tax, property tax, and property acquisition tax are exempted for five years in proportion to the ratio of shares owned by foreign investors, and a 50 percent reduction of these taxes is allowed for the ensuing three years. In addition, customs duties and commodity taxes on capital goods to be imported for investment purposes are also exempted.

2) Unlimited remittance of profits is guaranteed, with no waiting period. The principal may be repatriated up to 20 percent per annum after two years from the date when

U.S.-Korean Talks Emphasize

During the Fourth United States-Korean Commerce Ministers Meeting recently held in Washington, Secretary of Commerce Maurice H. Stans and Korean Minister of Commerce and Industry Nak Sun Lee reviewed a broad range of commercial subjects.

The two Cabinet officers emphasized their mutual interest in expanding trade between the United States and the Republic of Korea, as well as the stimulation of further U.S. investment in Korea.

In a joint communique issued at the conclusion of their discussions, Secretary Stans and Minister Lee agreed that "their frank and cordial exchange of views had reaffirmed the strong ties of friendship between their two countries, and would effectively help to broaden the commercial relations between the Republic of Korea and the United States." Secretary Stans accepted Minister Lee's invitation to hold the next meeting in Seoul.

Major excerpts from the communique of the Sept. 27-28 meeting follow:

The topics discussed at the meeting included the economic situation in the United States and Korea; expansion of Korean exports to the United States; expansion of U.S. exports to Korea; Korea's foreign investment climate; and the sister relationship between the U.S. National Bureau of Standards and the Korean National Industrial Research Institute.

Secretary Stans emphasized the objectives of the New Economic Policy in stimulating the U.S. economy, controlling inflation, and restoring a healthy balance of trade and international payments.

Minister Lee reviewed the impressive achievements under Korea's Second Five-Year Plan and outlined the goals envisaged in the Third Plan to begin in 1972.

Both Ministers expressed satisfaction with the continued growth in trade between their two countries. In reviewing this trade, however, Minister Lee noted that the U.S. 10 percent surcharge on imports might adversely affect Korea's exports to the United States. He urged that the U.S. Government remove the surcharge as soon as possible to enable Korea to achieve its export targets which represent the most important element of Korea's economic development plan.

Secretary Stans reaffirmed that the surcharge is a temporary and non-discriminatory measure. The U.S. side also reviewed the status of the Administration's legislative proposal for generalized tariff preferences for developing countries, and took note of Korea's concern that the United States had not yet implemented its preferences scheme.

The U.S. side gave assurances that if Korea's shellfish sanitation program is acceptable, the United States is most will-

the foreign capital invested enterprise begins its business operation.

3) Reinvestment of profits is permitted up to the amount of the original investment. Authorization must be obtained if the reinvestment amount exceeds the original outlay.

4) Foreign investors may own up to 100 percent of the shares of an enterprise.

5) All the property of foreign-invested enterprises is guaranteed and protected from requisition or expropriation.

The Korean Government intends to amend the Foreign Capital Inducement Law to reflect the country's more sophisticated approach toward foreign investment.

In addition, the Korean Government is endeavoring to reduce so-called red tape to a minimum. Streamlined administrative procedures for the inducement of foreign investments were recently launched and centralized in a "one-stop service" operation in the Office of Investment Promotion. There is evidence, too, of better interagency coordination for a more even-handed, pragmatic implementation of Korea's commerce and investment laws. Until recently, official emphasis was centered largely on the inducement of foreign capital. The Government has now moved to improve its organization to deal more effectively with problems encountered by foreign firms after production facilities are completed and the plants are in operation.

As for technical assistance and licensing agreements, the Korean Government has is-

Expansion Of Commercial Ties

ing to make the necessary preparations for an agreement which would permit the export of shellfish products to the United States. Questions relating to cotton under a new Public Law 480 agreement and the U.S. tariff quota on stainless steel flatware were also discussed. The Korean side requested that the tariff quota on Korea's stainless steel flatware exports to the United States be increased to the level of Korea's previous export performance, and the U.S. side explained the situation facing the American flatware industry.

In reviewing the expansion of U.S. exports to Korea, the U.S. side expressed its appreciation for the Korean Government's outstanding cooperation in connection with the Second U.S. Industrial Machinery Exhibition, scheduled to be held in Seoul next month, and for the continued receptivity of the Korean market to American products. The U.S. side indicated the hope that an improvement in Korea's international payments position would permit some further relaxation of import controls.

The Korean side requested increased support for U.S. exports to Korea by the Export-Import Bank of the United States, and invited the U.S. Government to consider the establishment in Korea of a U.S. Trade and Investment Center. The U.S. side took particular note of both requests.

The Korean side reported on the contribution made by U.S. private investment in Korea and expressed the desire to encourage more U.S. equity investment, particularly in joint ventures with Korean partners. The U.S. side agreed that U.S. firms will continue to be interested in investment possibilities in Korea, so long as the investment climate remains favorable and competitive with other developing countries. In this connection, it emphasized the benefits that could be derived from granting U.S. insurance companies the opportunity to offer their services to foreign subsidiaries and joint ventures incorporated in Korea, and to Korean enterprises as well. The U.S. side also urged that the Republic of Korea join the "Paris Union" International Industrial Property Convention as well as the Universal Copyright Convention.

The U.S. side referred to the steps taken thus far to effect the sister relationship between the United States National Bureau of Standards and the Korean National Industrial Research Institute, and indicated various ways in which a more meaningful collaboration could be undertaken. Minister Lee accepted from Secretary Stans an index of engineering standards, the first in a series of publications by the National Bureau of Standards, and noted his interest in a greater exchange of personnel and technical services.

sued new internal guidelines removing the rather stringent controls on such activity instituted in early 1969. With the Government taking a more realistic view of the contribution that foreign technology can make to continued industrialization, interest on the part of U.S. firms is now increasing.

In order to further induce foreign investment and promote export industries, the Korean Government is establishing a free export zone in Masan, a port city on the southern coast, and plans to construct two additional zones. Of the 166 acres in the Masan zone, 147 acres remain to be allocated.

Among incentives offered to foreign enterprises operating within the free trade zones are: exemption from most Korean taxes; simplified administration procedures; a large, relatively inexpensive and comparatively well educated labor force; prime industrial sites with plentiful water and power supplies; and the option of leasing government-established factory buildings with rent payable on an installment basis. Low-cost plant sites and other privileges are also available in a number of other export and industrial estates.

The cost and productivity of Korea's labor represent a significant attraction for foreign investors. The supply of labor continues to exceed demand. Furthermore, labor is highly literate, industrious and eager to learn skills, and foreign investors in labor-intensive industries have found unit production capability to be generally high. A Special Law on Trade Union and Mediation of Labor Dis-

JOINT HOTEL VENTURE—*The new Chosun Hotel in Seoul represents a combined investment by Korean interests and American Airlines of the U.S.*

INDUSTRY COOPERATION—*A semi-conductor production line at this U.S.-owned plant in Seoul reflects growing U.S. investment in electronics.*

The Korean Government particularly desires foreign investment in the following industrial fields:

Import substitution industries: Textile processing, pulp making and printing machinery, industrial chemicals, iron and steel, metal products, prime movers, machine tools, pumps and compressors, textile machinery, construction and mining equipment, statistical machines, electrical machinery, communications equipment, shipbuilding, and transportation equipment.

Export industries: Leather goods, tires and industrial rubber products, chemical fertilizers, industrial chemicals and plastic materials, glass, ceramics, textile machinery, electrical machinery, electronic components, communications equipment, toys, sporting goods, musical instruments, and furniture.

Export industries in Masan Free Export Zone: Leather products, food processing and packaging equipment, handicraft articles, furniture, selected garments, electronic products, printing equipment, sporting goods, toys, musical instruments, machine tools, metal manufactures, cosmetics, certain rubber products, plastic manufactures, and optical, medical, scientific and precision instruments.

putes in Enterprises Invested by Foreigners was promulgated in 1970 to provide better labor conditions for the foreign investor.

The Korean Government has continuously reaffirmed its policy to encourage foreign, and particularly American, investment. And numerous investment opportunities are evident within the framework of Korea's Third Five-Year Development Plan (1972-76). While the Plan projects an average annual increase of 8.6 percent in real GNP, Korea's actual growth rate may be higher; the increase during the first half of this year was 14 percent. Personal income will continue to rise. Domestic consumption will very rapidly catch up with the supply and further expansion will be necessary. Exports are expected to continue to grow at 30 to 40 percent per year and manufacturing will stay in the lead.

Korea is dependent on foreign exchange to nourish its development. To earn foreign exchange, Korea's industry must be export oriented—it needs, and desires, foreign capital to enable it to grow and expand.

—Bureau of International Commerce

DOMESTIC BUSINESS REPORT

- Bigger, better ports needed in U.S.
- Federal monies to help regional centers
- Five towns turn up zero populations
- Crime insurance program to aid minorities
- Mortgagee insurance requirement drops

Bigger, Better Port Facilities Needed For Supertankers

The United States must move now toward providing reception facilities for large crude oil carriers in the next decade, Assistant Secretary Andrew E. Gibson has warned.

Terminal facilities are needed to accommodate very large supertankers that can economically carry the mounting volumes of foreign crude oil imports vital to meeting the Nation's energy requirements, the Assistant Secretary of Commerce for Maritime Affairs stressed.

Noting that this country's energy consumption is expected to double by 1985, Gibson said domestic sources of petroleum, natural gas, coal, nuclear power and hydroelectric power will be able to supply only about half of the Nation's requirements.

"For the first time in our history we will be crucially dependent upon foreign sources for our energy requirements," Gibson asserted. "By 1985 imports will account for two thirds of our petroleum supply."

"This means that our foreign crude imports will increase astronomically—from less than a million barrels per day at present to almost 14 million barrels daily in the mid-1980s," he explained.

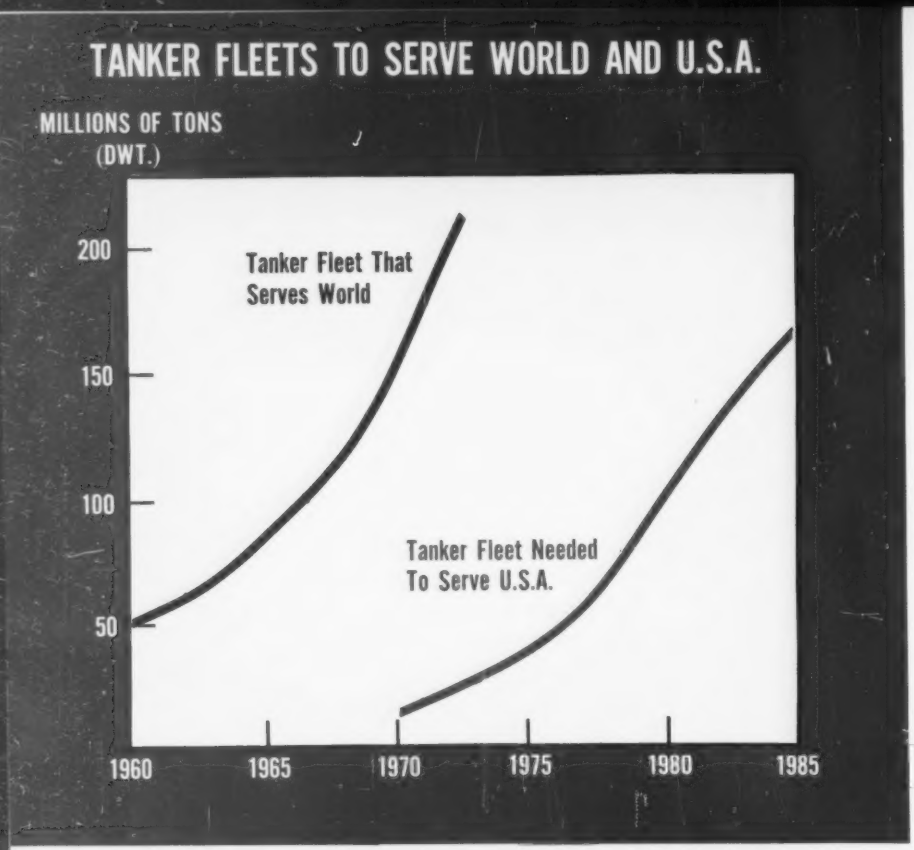
"Just supplying U.S. energy imports in 1985 will require as much tanker tonnage as now exists in the world—about 153 million deadweight tons," the Commerce official continued.

More than 2,600 tankers of 47,000-ton capacity, the average size currently in service, would be needed to move the volume of imported crude oil necessary to meet growing U.S. energy requirements. U.S. ports would be swamped with 45 ship arrivals a day.

"Facilities to receive very large crude carriers would greatly reduce the chances of accidental pollution by collision or groundings," Gibson pointed out, noting that the supertankers could handle the same volume of oil in nine arrivals a day.

And, only about 500 of the 250,000-ton vessels would be required for the task.

The larger tankers also provide substantial savings in capital and operating costs. Savings in transport costs achieved by using the very large crude carriers would amount to some $1.5 billion annually in 1985. This stems from the fact that it costs $13 per ton to haul oil in a 47,000-ton tanker and



water alternatives would provide annual transportation savings of $306 million, $325 million and $335 million, respectively.

The Machiasport alternative would cost $312 million, Montauk Point, $278 million, and Delaware Bay, $210 million. The artificial island concepts in these alternatives are more expensive than other alternatives in use around the world today. These include single-point mooring systems, which Gibson said could be built today for about $35 million, fixed platforms and floating platforms. Cost of the fixed platform with pipelines would be $50 million and floating platforms with tugs and barges for transhipment, $80 million.

Gibson's remarks were made at the American Association of Port Authorities convention at Portland, Me.

—Maritime Administration

$6 per ton in the very large crude carriers.

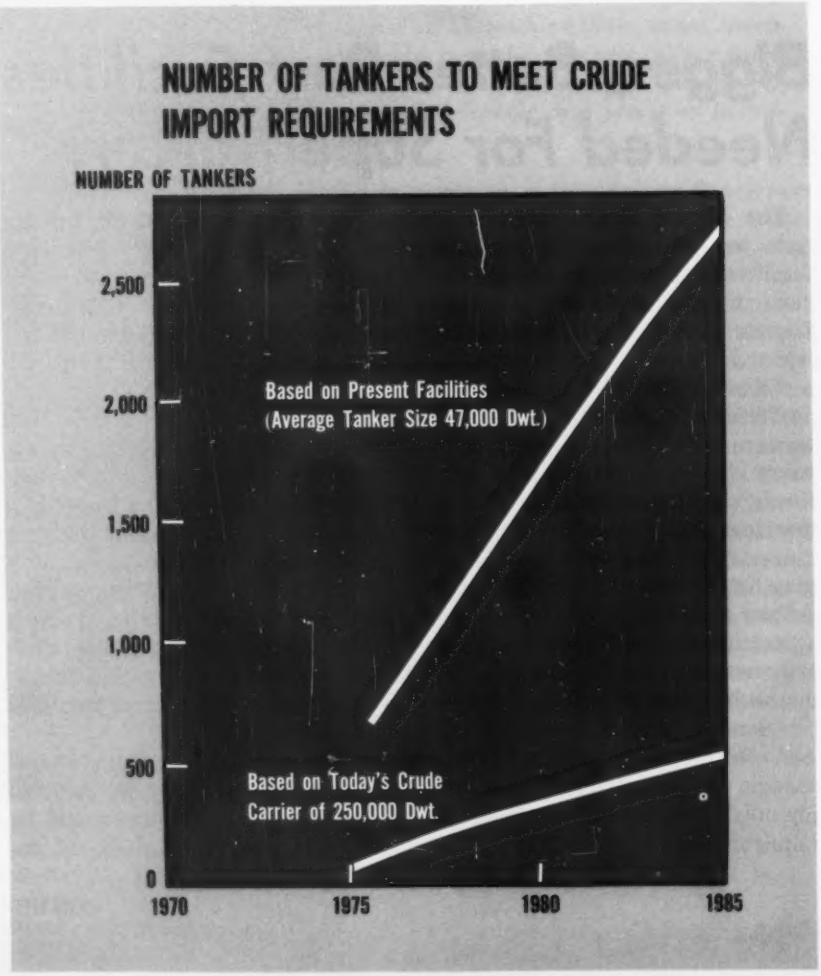
Lack of deep-draft ports

No U.S. ports on the East or Gulf coasts can accommodate the very large crude carriers and only three West coast ports have channel depths to handle ships of 100,000-ton size. Yet, there are over 50 deep-draft port facilities operating, being built, or planned in foreign nations.

Gibson noted further that the world fleet in the next few years will include bulk carriers of more than 100,000 tons, half of which will exceed 200,000 tons.

"We must explore alternative locations for facilities to handle 250,000-ton ships, since our present ports cannot be enlarged for this task," he said.

He compared the cost of maintaining the status quo with the savings from artificial islands in sheltered waters at Machiasport, Me., Montauk Point, N.Y., and Delaware Bay, off the coasts of Delaware and New Jersey. These deep



Regions Show Local Flavor in Economic Growth

The Nixon Administration's program to concentrate Federal agency activities in regional centers will be reflected in a realignment of regional offices of the Economic Development Administration Dec. 1.

Government approval

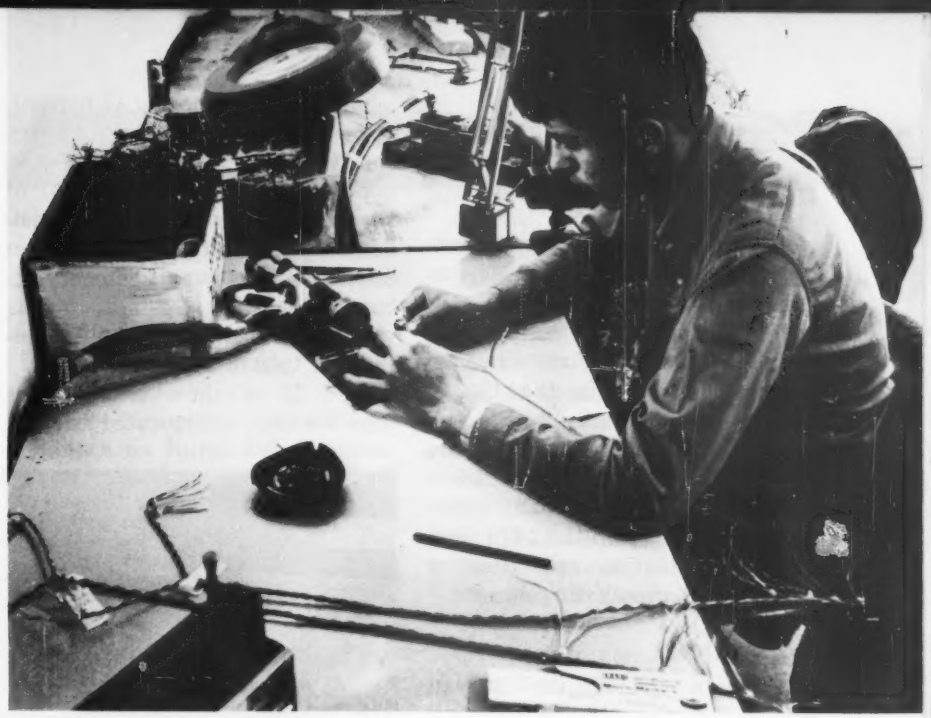
Robert A. Podesta, Assistant Secretary of Commerce for Economic Development, said the Federal government approved $244.8 million in fiscal 1971 for projects to stimulate commercial and industrial growth in economically lagging areas throughout the country.

Approved projects ranged from job training for workers, to grants for sewers and other public facilities essential to economic growth. Low interest, long term loans are also made by the Commerce agency to help private business expand and build new plants.

"All projects originated in the local communities and, in keeping with President Nixon's program for decentralization of Federal activities from Washington, were processed by EDA's regional offices," Podesta stated, "The principle of local initiative and implementation is the vital factor in the effectiveness of the Federal economic development program," Podesta stated.

Projects receiving fund approval in fiscal 1971 were scattered throughout the country as follows:

Western states, including American Samoa, $38.3 million for 116 projects. Mideastern states, $20.4 million for 92 projects. Atlantic states, including Puerto Rico and the Virgin Islands, $65.2 million for 115 projects. Southeastern states, $40.5 million for 114 projects. Southwestern states, $43.6 million for 141 projects. Midwestern states, $36.8 million for 106 projects.



ROSEBUD SIOUX ELECTRONICS—*The Economic Development Administration helped the Rosebud Sioux Indian Tribe of South Dakota establish Rosebud Electronics—where this young Sioux brave earns a share of the Nation's gross national product. The Commerce agency provided $51,500 grant and $32,500 loan to build a building at the Antelope Industrial Park at Mission, on the reservation.*

Regional offices and the states they will serve under the alignment, effective Dec. 1, are:

Southeastern (Atlanta) — Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee.

Southwestern (Austin) — Arkansas, Louisiana, New Mexico, Oklahoma and Texas.

Midwestern (Chicago)—Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin.

Rocky Mountain (Denver) — Colorado, Kansas, Iowa, Missouri, Montana, Nebraska, North Dakota, South Dakota, Utah and Wyoming.

Atlantic (Philadelphia) — Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Puerto Rico, Rhode Island, Vermont, Virginia, Virgin Islands and West Virginia.

Western (Seattle) — Alaska, American Samoa, Arizona, California, Guam, Hawaii, Idaho, Nevada, Oregon and Washington.

—Economic Development Administration

Development Loans Interest Rates Down

Interest rates on Federal development loans by the Economic Development Administration were reduced Oct. 1 by one-quarter of 1 percent.

For the quarter beginning Oct. 1 the EDA public works loan rate is 5.375 percent, reduced from 5.625 percent for the July-September quarter. The business loan rate is 5.875 percent down from 6.125 percent for the previous quarter.

The loans are made by the Commerce agency to encourage industrial and commercial growth in economically lagging areas of the Nation. Rates charged for the loans are based on borrowing costs to the Federal government.

Secretary Stans said EDA conducts a quarterly review of its interest rates in order to make them as low as possible for communities and businesses seeking to create new jobs and revitalize economies of redevelopment areas.

—EDA

Population—Zero For Five Towns

Anyone who hails from Ironton, Colorado, can't go back. No one lives there anymore.

In fact, memories may be the only inhabitants of four other incorporated towns in the United States—Bay City, Alaska; Ridotto, Iowa; Westfall, Oregon; and Parker, Texas. All five of these small towns, while still incorporated, show up in the 1970 Census of Population and Housing with a population listing of zero.

No residents

Although the Census Bureau data records these towns as having no residents on April 1, 1970, they are still listed as towns, since in most cases it requires legislative action to terminate corporate status. As a result, the incorporated status may remain well after the last person has gone. Or, as the record shows, an incorporated town may even be established before anyone moves in.

Three of these 'ghost villages' lost their entire population between 1960 and 1970. These places, and their 1960 populations, were: Ironton, Colo., 1; Westfall, Oregon, 8; and Ridotto, Iowa, 6.

None in 1970

Two of the zero population towns did not exist in 1960, and still showed no inhabitants in 1970: Bay City, Alaska; and Parker, Texas. The Census Bureau said that presumably these places were incorporated for some special reason before they even claimed one resident.

Meanwhile, as the country and almost everything in it grows bigger, the very small places are becoming more numerous. Census Bureau information shows that there were 116 incorporated places with populations of 25 or less in 1970, as compared with 79 in 1960 —an increase of nearly 47 percent.

Of the 116 small towns of 25 persons or less, 72 registered a loss in population over the decade—51 of them dropping to 25 or fewer residents for the first time. The largest population loss in this category occurred in Pine Springs, Minn., which declined from 142 inhabitants in 1960 to 23 in 1970.

And 22 of these small towns were not even incorporated as small towns in the 1960 Census count.

The 116 incorporated small towns are scattered through 27 states. The continuing exodus, however, from rural areas in the belt ranging from the Dakotas to Texas is reflected in the fact that 53 of the towns on the 25-or-less population list are located in this region. Forty-three of these showed a loss in population.

—Census Bureau

CRIME INSURANCE—*This Washington, D.C., businessman, shown with Mayor Walter Washington at left, now has crime insurance under a new Federal program.*

U.S. Crime Insurance Program Is Launched

A new Federal Crime Insurance program aimed at helping inner city businessmen get insurance coverage will aid minority enterprise.

Under the program, businessmen and residents in nine states and the District of Columbia are able to purchase insurance against losses from burglary and robbery at affordable rates—even in high crime areas.

Insurance companies offering policies under the program are the Insurance Company of North America in Pennsylvania, Maryland and Illinois; American Universal in Rhode Island; and Aetna Casualty and Surety in New York, Ohio, Connecticut, Massachusetts, Missouri and Washington, D.C.

Secretary George Romney of the Department of Housing and Urban Development said the program will be extended if studies of insurance legislation in other states show that businessmen still encounter difficulty in obtaining insurance. In the past, high premium rates and, in many cases, unavailability of insurance coverage has hampered business in high risk areas.

Mortgagee Insurance Requirement Dropped

Unsubsidized shipowner-participants in the Federal ship mortgage insurance program no longer have to carry mortgagee insurance on covered vessels.

The dropping of this requirement was announced late last month by A. E. Gibson, Assistant Secretary of Commerce for Maritime Affairs.

"The elimination of this requirement," said the Assistant Secretary, "will save operators about $250,000 annually."

Gibson, who heads the Maritime Administration, said that in the ten years that this type of insurance has been required of the unsubsidized shipowners in the program, there have been no instances in which it was needed.

Gibson noted that this step, which will aid in streamlining the Federal ship mortgage insurance program, was recommended last year by Dr. Alan P. Kirman, formerly a professor with Johns Hopkins University. Dr. Kirman headed the Maritime Administration-sponsored study of the marine insurance industry conducted in 1970.

The mortgagee-insurance requirement was instituted in 1961. At that time, about 90 percent of the vessels covered by Federal mortgage insurance were owned by operators with only the single ship as their major asset.

"Today, however," Gibson explained, "the situation is reversed, with about the same percentage of participating vessels being units of company fleets, whose owners have sufficient assets to cover any obligations not met under their ordinary marine policies."

According to the Maritime Administration, the elimination of the mortgagee insurance requirement on covered vessels will add to the attractiveness of the Title XI program. —*Maritime Administration*

Calendar For Businessmen

Oct. 19-22 — Houston — National Congress on Recreation and Parks conference on "Our Resources, Human, Natural, and Fiscal." For information contact Mrs. Janis Flagg. Phone: 202-223-3030.

Nov. 7-9—Memphis—National Conference on Rural Development: Regional Issues and Strategies, sponsored by the National Service to Regional Councils. For information contact Richard C. Hartman. Phone: 202-296-5253.

Nov. 14-19—Chapel Hill, N. C.— Basic Industrial Development Course, University of North Carolina, sponsored by American Industrial Development Council. For information contact Robert E. Leak, State Department of Conservation and Development, Raleigh, N. C. Phone: 919-829-7651

Nov. 14-19—Reno, Nev.—American Congress of American Indians. For information contact the Congress of American Indians, Washington, D.C., Phone: 202-223-4155.

Nov. 15-19—Kansas City, Mo.— Plant Layout and Facilities Planning, work course sponsored by University of Kansas. For information contact Howard C. Hamilton, coordinator, University Extension Center, Kansas City, Kan. Phone: 913-262-1555.

Federal Procurement Regulations Altered To Aid Minority Business Entrepreneurs

Changes in Federal Procurement Regulations will increase opportunities for minority businesses to receive subcontracts from prime government contractors, Robert L. Kunzig, administrator, General Services Administration, announced.

The changes, effective today, "fully support President Nixon's policy to give minority firms every possible chance to share in the government procurement program." Kunzig is chairman of the presidden't's procurement task force for minority business enterprise.

In contracts exceeding $5,000, a "Utilization of Minority Business Enterprise" clause requires contractors to use their best efforts to place subcontracts with minority firms.

For contracts exceeding $500,000 involving subcontracting opportunities, a "Minority Business Enterprise Subcontracting Program" clause will be used to require the contractor to conduct a program which will enable minority firms to be fairly considered as subcontractors and suppliers.

Minority firms are those which are at least 50 percent owned by minorities, or if publicly-owned, at least 51 percent of the stock is owned by minority members. Minorities include blacks, Spanish speaking Americans, American Indians, American Orientals, Eskimos and Aleuts. —*OMBE*

Ombudsman For Business

Businessmen who need assistance in their dealings with the Federal Government now have a central office in Washington, D.C., to write or call for information, suggestions, or even for registering complaints—the Commerce Department Ombudsman for Business.

All inquiries should be addressed to the Ombudsman, Thomas E. Drumm, Jr., Special Assistant to the Secretary, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-3178.

SCIENCE & TECHNOLOGY REPORT

- Puzzling creeps detected along San Andreas
- Marine experts named to committee
- Scientific sleuths seeking pollutants 'portraits'
- College Sea Grant furthers fish research
- Patents of special interest.

Puzzling Creeps Detected Along Quake-Prone San Andreas Fault

Detection instruments set up along a branch of California's famed San Andreas fault have recorded the largest creep event ever measured. Creep is a slow, gentle earth movement travelling at a rate of only several miles a day compared to the 7,000-mile-per-hour speed of some earthquakes.

The creep was detected July 17 at four instrument sites by seismologists of Commerce's National Oceanic and Atmospheric Administration along the Hayward-Calaveras fault in and to the north of Hollister, Calif. The maximum movement recorded was nine millimeters or slightly more than a third of an inch, a large amount of motion in view of the annual average fault creep in Hollister of about 10 millimeters.

The July 17 event was the first whose rupture length of about three and three-quarter miles was directly measured. This is the result of installing a relatively dense network of instruments over the past several years.

This particular creep event occurred as one of a cluster of fault creep motions observed during July and early August by the Earthquake Mechanism Laboratory, one of NOAA's Environmental Research Laboratories. A few days before the event, on July 11, a four-millimeter creep was observed at the northern end of the segment ruptured by the July 17 movement. Others followed at different portions of the segment.

Five other events

During the same period, five other creep events were recorded by instruments deployed over a 37-mile segment of the main San Andreas fault immediately to the south of Hollister.

Only tentative conclusions are possible on the basis of present knowledge and data. Among them are:

- The July-August cluster of creep events, especially the nine-millimeter event of July 17, probably relieved significant amounts of strain along the ruptured segment of the fracture zone near Hollister.
- The creep episodes involved both the main San Andreas fault and the Hayward-Calaveras fault near Hollister, where the surficially unconnected fracture zones branch, suggesting some form of interaction between the two faults.
- If this interaction is real, the creep activity observed along the Hayward-Calaveras fault may be relieving stress along the main San Andreas fault north of Hollister,

providing a "safety valve" for stresses developing where that fault system cuts through San Francisco.

Creep is a non-seismic motion along a fault, a zone of weakness in the earth's crust.

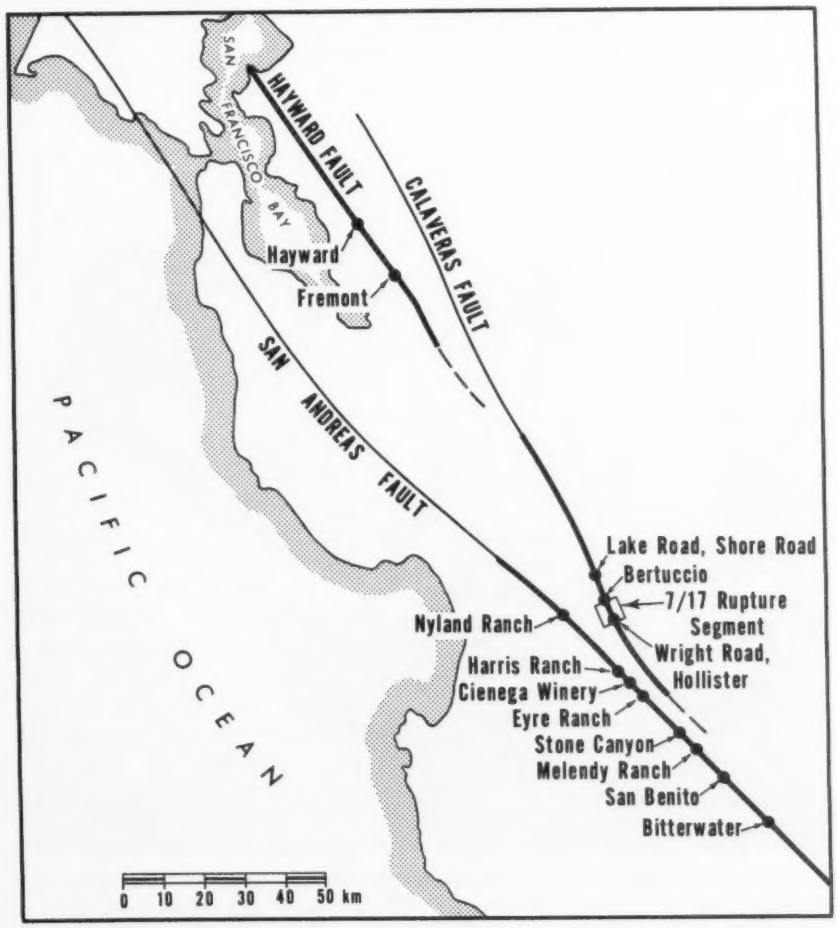
The existence of this motion of California's San Andreas fault system was first discovered in 1956 at the Cienega Winery, which straddles the main fault zone south of Hollister and is being slowly torn in half by fault movement.

Scientists at the San Francisco-based Earthquake Mechanism Laboratory have installed instruments where creep is revealed by kinks and bumps in curbs and sidewalks, Bay area tunnels, fences, foundations, walls, and other structures, and in land formations.

Although fault creep is almost certainly related to earthquakes, the details of this relationship are not fully understood.

Some scientists believe that strain—or internal stresses which finally cause the rock structure to fail, producing fault motion and earthquake tremors—is relieved when creep occurs, reducing the possibility of a major earthquake in that part of the fault. This would also mean that earthquake-producing stresses are building up where there is no evidence of fault creep.

Alternatively, the absence of creep slippage may indicate an absence of strain buildup along the fault, and vice versa: the more creep the greater the stress, and the more likely a strain-relieving adjustment in the form of an earthquake. —*NOAA*



Instrument sites on San Andreas, Hayward, and Calaveras faults.

Marine Experts Named To Advisory Committee

Ten men recognized in commercial fishing, marine sports fishing, and conservation have been appointed by Secretary Stans to the recently-formed Marine Fisheries Advisory Committee. This brings membership to 27.

The Committee serves to advise the Commerce Secretary on the Department's responsibilities for fisheries resources. It reviews and advises on the adequacy of National Marine Fisheries Service programs and related programs of the National Oceanic and Atmospheric Administration.

Topics under the committee's purview include fish exploration, conservation, aquaculture development, marine biological research, fish technology, and marine fish user services, leading to the intelligent utilization of the marine environment.

The new members are:

William S. Brewster, Board Chairman and Chief Executive Officer, United Shoe Machinery Corp., Plymouth, Mass.; Dr. James A. Crutchfield, Jr., Associate Professor of Economics, University of Washington at Seattle; Ray H. Full, President, Kishman Fish Company, Vermillion, Ohio; William B. Hannum, Jr., President, Sea Farms, Inc., Key West, Fla.

John D. Isaacs III, oceanographer and professor at Scripps Institute of Oceanography, La Jolla, Calif.; William A. Nungesser, President, Algiers Canning and Sales Co., New Orleans; William G. Saletic, Executive Manager, Seiners Association, Seattle; Henry J. Shakespeare, Board Chairman, Shakespeare Co., Columbia, S.C.; A. Burks Summers, former U.S. Ambassador to Luxembourg and an international conservationist and sportsman, Rockville, Md.; and Robert M. Thorstenson, President, Petersburg Fisheries and Seward Fisheries, Seward, Alaska. —*NOAA*

Scientific Sleuths Seek 'Portraits' Of Nation's Most Unwanted Pollutants

A general alarm is out for a half-dozen types of air pollutants recognized as the nation's "most unwanted."

To assist the Environmental Protection Agency's planned crackdown on these often invisible and elusive outlaw substances, new devices and analytical techniques are being developed under the Measures for Air Quality Program mounted by Commerce's National Bureau of Standards.

The chief targets are sulfur oxides, particulate matter, carbon monoxide, photochemical oxidants, nitrogen oxides, and hydrocarbons. Present in the air, these substances become public enemies that refuse to sit still for "mug shots." Instead, composite portraits of these slippery pollutants are being sketched by scientific sleuths from data captured on the fly.

The plastic "permeation tube" developed by EPA's Bureau of Air Pollution Sciences carries an NBS certificate of calibration, indicating very precisely the rate at which the tube's liquid sulfur dioxide, changing to a gas seeps through the tube's walls at controlled temperatures. Because of sulfur dioxide's high reactivity, use of this technique is necessary so that authorities and researchers in all the States can have a reliable NBS standard reference material for uniformly measuring sulfur dioxide in air.

Heading off disaster

Without such standards, there can be no accurate warning systems to head off air pollution disasters like those held responsible for thousands of deaths in recent decades—in the Meuse Valley, Belgium in 1930; in Donora, Pa., in 1948; in London in 1952; and in New York City in 1953, 1963 and 1966.

The 30 million metric tons of sulfur oxides that enter the air each year not only face a possible "murder rap" for their role in such deaths, but they are also implicated in extensive damage to building materials. This arises from the burning of sulfur-bearing coal and oil, involving more sulfur than the annual U.S. industrial sulfur production. Thus in the interests of human health and economic health, the NBS Measures for Air Quality Program has produced the certified SO_2 permeation tube and is attacking sulfur measurement problems on other fronts as well.

Atomic emission

For example, the Bureau has developed an atomic emission detector for the calibration of devices used in monitoring sulfur compounds.

Particulate matter, of which 32 million metric tons are produced annually—presents one of the biggest challenges to the Measures for Air Quality Program. Less than half the ingredients in common particulates have been systematically analyzed. In a comprehensive move, NBS is preparing to measure the complete chemical composition of typical sample of big city particulates, hoping to unravel mysteries that presently obscure the behavior of particulates dispersed in the air.

Special monitoring

Particle density and size distributions in auto exhausts and in the atmosphere at large may be made measurable by light-scattering techniques. Particles from auto clutch and tire wear—expected to displace the exhaust particulate problem in relative importance

CALIBRATION CHECK—*Ernest Hughes of the National Bureau of Standards staff performs a gravimetric calibration of a sulfur dioxide permeation tube used in calibrating air pollution measuring instruments. The Bureau issues these tubes so that authorities and researchers in all the States can have a reliable NBS standard reference material for uniformly measuring sulfur dioxide in air.*

before long—will require their own special monitoring techniques, and research along this line is under way.

Rapid measurements

Other gases, too, are a major challenge not only because they are fast-reacting and volatile, but also because traditional "wet chemical" measurement methods are too slow and subject to interference from other pollutants. The NBS researchers are eyeing possible ways of obtaining continuous, rapid measurement of nitric oxide. They also seek to develop instruments for practical measurement of formaldehyde and reactive hydrocarbons, and are deeply concerned about improving the monitoring of cancer-causing polynuclear aromatic hydrocarbons.

Air pollution from carbon monoxide alone amounts to some 138 million metric tons per year. With reported concentrations of 50 parts per million now common, carbon monoxide's distinct threat to human health must be faced. At a 600 ppm level, one hour's exposure causes headache, two hours' exposure results in collapse, and six hours' exposure would produce coma possibly followed by death.

Substantial inroads

CO also threatens to make substantial inroads on the American pocketbook—U.S. car buyers, for example, may be spending considerable sums for installation of exhaust gas reactors and other devices for removing CO and hydrocarbons. The national effort to control carbon monoxide emissions will require exacting measurement capability—which explains why a reliable standard reference material for CO in air is the subject of a big push in the Air Quality Program.

Of the 34 million metric tons of hydrocarbons that are getting into the nation's air each year, some are "reactive" varieties suspected of having a major role in photochemical smog. NBS is therefore supporting investigations into the chemistry of the substances involved, one of which is ozone. One leading project, backed by EPA, calls for development of instrumentation and standards to provide reliable ozone calibrating devices.

Nitrogen oxides are discharged into the air at an annual rate of about 22 million metric tons—mostly as a result of the burning of gasoline and other fossil fuels. Beyond this, little is known about the potential effects of SST emissions of nitrogen oxides on the chemistry of the stratosphere. This high-altitude region is very important in determining the amount of solar ultraviolet radiation received at the earth's surface. The Air Quality program hopes to improve the basis for long-range technological and ecological forecasting through investigations of stratospheric photochemistry.

Where they're taken

Realistic air pollution monitoring may depend as much on where the measurements are taken as on how the measurements are taken. Even in a single city block, results may vary considerably if taken, for example, at rooftop or street levels, or at different times of the day. Winds, turbulence, sunshine, storms, temperature, chemical dynamics and other variables all have a role—and often combined roles—to play and even high-speed computers have been overmatched by such complexities.

Tackling an atmospheric modeling problem for the EPA, the NBS Technical Analysis Division has completed a study indicating the optimum placement for air samplers in the Buffalo, N.Y., Air Quality Control Region.

—National Bureau of Standards

Lincoln The Seaman?

Abraham Lincoln, the only President of the United States to receive a patent, was awarded Patent No. 6,469 for "A Device for Buoying Vessels Over Shoals."

College Sea Grant Furthers Fish Research

Continuation and expansion of research on crab, salmon, trout, and abalone is assured with the $160,700 Sea Grant awarded Humboldt State College, Arcata, Calif., by Commerce's National Oceanic and Atmospheric Administration.

The agency grant will be combined with matching funds from the college and other non-federal sources.

Results already reported by the college researchers include the reduction of cannibalism in crabs—an important deterrent to growing large numbers of these animals under controlled conditions. The college's mariculture project also has developed improved holding conditions and diets for cultured crabs. Also under study is the development of an artificial bait for crabbing.

The Humboldt State scientists plan to complete these studies during the one-year term of the NOAA Sea Grant, gaining information on the possibility of culturing crabs that are currently caught commercially.

Another related project being conducted by the school involves the possibility of rearing trout and salmon in sewage-enriched, brackish and saltwater holding ponds.

A new project being undertaken at the request of the fishing industry and the State of California is a study of the chinook and coho salmon in their ocean environment to evaluate current management regulations. Present regulations are based on studies made over 20 years ago.

In addition to its research projects, Humboldt State College conducts an Extension Service which provides marine information and advisory services to federal and state agencies, state-wide industrial organizations, and other Sea Grant institutions on the Pacific Coast.

—NOAA

Patents Of Special Interest

Recent patents issued by the U.S. Patent Office included:

Collapsible boat. A collapsible boat which includes a pair of inflatable pontoons carried in sleeves. Each sleeve has an upper flexible portion and a lower rigid shell which forms a planing surface. The sleeves are interconnected by a flexible web, and are maintained in spaced parallel relation by a frame assembly which is nested between and secured to the pontoons. The frame assembly includes a bow plate, floorboard and transom adapted to carry an outboard motor. The boat can be disassembled and arranged in a compact, narrow generally cylindrical package with the rigid surfaces of the sleeves forming the outer covers for the package. Patent No. 3,608,112 issued to Finn T. Irgens, Milwaukee, Wis., and assigned to Outboard Marine Corporation, Milwaukee, Wis.

Waste compacting device. A waste compacting assembly composed of an elongated circular housing, a movable compactor of annular shape slidably mounted inside. The housing is adapted to receive waste to be compacted which is partially in the shape of a funnel with the compactor being forcibly reciprocable toward and away from the funnel to compact waste into the funnel. Patent No. 3,604,345 issued to Daniel Q. Boje, Staten Island, New York, and assigned to Compactor Corporation, Brooklyn.

Food product apparatus. A method and apparatus for making a bread-type food product, which in its finished form, will have a hole. The method includes the step of rolling dough to a flattened form and then rolling the flattened dough on a tubular member with the dough overlapping the tubular member at one end so that it may be sealed to provide a closed end. The machine for performing the method includes a structure for placing tubes on the flattened dough and then engaging the dough, causing it to roll upon itself and the tube in a spiral manner to provide a generally cylindrical rolled dough mass which then can be cooked or baked. Patent No. 3,604,367 issued to Frances B. Arries, P.O. Box. 63, Pengilly, Minn.

Water transportation system. A ferry water transportation system where a freely floating vessel is propelled across the water by an underwater cable. The cable is moved by a winch driven from a power source, and both the winch and power source are located on shore, or on a floating terminal at shoreside. The vessel is guided and kept on course by the cable system, and its speed and direction are controlled from the vessel or from shore. The vessel has no onboard propulsion machinery and the internal hull volume may be filled with foamed material to make the vessel unsinkable. Patent No. 3,604,389 issued to George G. Roberts, Woodside, California, and others and assigned to Cable Ferry Systems, Woodside.

Buoyant barrier. A buoyant barrier is provided, as well as a method for installing the barrier, which makes it possible to establish the barrier to confine an oil spill at a remote location in a relatively short time after the spill has occurred. The barrier structure can be of flexible sheet material and is provided in light weight packaged form, ready for delivery by air, the structure being such that very high rates of deployment onto the surface of a body of water are practical. In its packaged form the barrier structure is completely free of weights. In deployed form, the weight of the structure is supported by air-inflated buoyancy chambers, and the structure is stabilized by a chamber or chambers filled with water from the body of water on which the structure is deployed. Patent No. 3,608,316 issued to James E. Manuel, Belle Terre, New York, and assigned to Versatech Corporation, Nesconset, N.Y.

Abstracts and drawings of patents are published as they are issued in the *Patent Official Gazette* each Tuesday. More than 1,600 patents are issued each week. Trademarks are published in the *Trademark Official Gazette*. Copies of the *Patent Official Gazette* and the *Trademark Official Gazette* may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C.

Science Calendar

Nov. 7-12 and Jan. 9-14—Boulder, Colo.—University of Colorado. Workshop on "The Management of Technology: Effective Management of Engineers and Scientists." Sponsored by the university's Center for Management and Technical Programs.

Nov. 12-13—Gaithersburg, Md.—National Bureau of Standards. Association of Computer Program Analysts, Potomac Valley Chapter.

Nov. 30-Dec. 1—Gaithersburg, Md.—National Bureau of Standards. Workshop on display terminals for teleprocessing and wired cities.

March 1, 1972—Gaithersburg, Md.—National Bureau of Standards. IEEE Computer Society.

March 22-24—Gaithersburg, Md.—National Bureau of Standards. Conference on Accuracy in Spectrophotometric, Fluorometric, and Phosphorometric Measurement.

April 24-27—Washington, D.C.—American Physical Society, Sheraton-Park Hotel.

October 18, 1971

International Commerce

- Quarterly Market Report from 46 nations
- Eximbank head offers Venezuela, Colombia leads
- Australia in leveling-off trend
- New challenges in Spanish markets
- Extraordinary growth pattern of Taiwan
- Listing of trade fairs in the U.S.

Mayo Clinic Linkup With Australia Helps Trade Center Penetrate Market

Newsmemo

OPIC is in action. OPIC is the recently established Overseas Private Investment Corporation that aims to stimulate U.S. investment in the developing nations. Its programs are now described in two pamphlets, "An Introduction to OPIC" and "U.S. Private Investment in International Development," and a series of handbooks, "Investment Insurance," "Investment Financing," "Finding New Investment Opportunities," "For Small Business," "For Cooperatives" and "For Financial Institutions." Write the Information Office, Overseas Private Investment Corporation, Washington, D.C., 20527, or call 202-632-1854 specifying the publications desired.

One of OPIC's early agreements was with the Agribusiness Council, Inc., of New York. Under it OPIC will share the council's administrative costs and those of pre-investment survey funds used by the council to encourage U.S. private agribusiness investments in developing nations. The council had such an agreement with OPIC's predecessor agency in AID. The Agribusiness Council, formed in 1967, splits costs of a U.S. company's investigation of investment opportunities in marketing, processing, storage distribution of food resources in African, Asian, Latin American and other developing nations.

International Trade Winds

COMMUNICATIONS—RCA Global Communications, Inc. has installed a computerized message switching center for Scandinavian Airlines System's world-wide communications network. At SAS headquarters in New York it serves as a central clearing house for more than 20,000 messages handled daily from Scandinavia, Europe, North America and the Far East. The system, leased to the airline by the RCA subsidiary, is designed primarily to carry reservations and administrative messages, but also is handling flight scheduling, crew assignments, and air cargo manifests.

MEDICAL EQUIPMENT — Meltec Ltd., Bucks, England, has been acquired by the Dylade Co. Ltd., Runcorn-Cheshire, England, a wholly-owned subsidiary of Milton Roy Co., St. Petersburg, Fla. Both Dylade and Meltec produce components for artificial kidney systems.

MARINE CONSTRUCTION—Mobil Oil Corp. has awarded a $3 million contract to Fluor Ocean Services (FOS), Inc., for the installation of more than 37,000 feet of subsea pipeline in Singapore. FOS is the international offshore construction subsidiary of Fluor Corp., Los Angeles. FOS will lay six pipelines from Mobil's refinery at Jurong to a tank farm under construction on the Island of Pesek, and three lines from Pesek to existing unloading facilities on the Island of Ayer Chawan. FOS will also expand existing pier facilities at the Jurong refinery by adding an additional berth. Work is expected to begin later this year, to be completed in the fall of 1972.

AUTOMOBILE RENTAL — Avis Rent A Car System, Inc., a subsidiary of International Telephone and Telegraph Corp., has opened its largest overseas maintenance facility at Frankfurt Airport in Germany. The service center washes, repairs and refuels Avis autos rented at the adjacent Frankfurt Airport. Office space in the building serves as an Avis district and training headquarters. Avis has other facilities similar to the Frankfurt complex completed or under construction at Heathrow Airport, London, and at a number of other major European airports.

TIRES—Firestone reports that it intends to double the present capacity of its producing facility at Bari, Italy, at a cost of $10 million. The plant currently manufactures one million tires annually for automobiles, industrial vehicles, farm tractors and earthmoving equipment.

Greetings to the American Management Association's Management Centre Europe, now observing its tenth anniversary. Out of its headquarters in Brussels the center currently runs about 200 meetings a year. Last year about 6,500 participants came to such meetings, in Brussels, Aarhus, Amsterdam, Como, Copenhagen, Frankfurt, Geneva, Helsinki, London, Milan, Paris, Rome, Stockholm, Vienna and Zurich.

The center's operating principle is to develop the professionalism of management through the education of management by management. In addition to many meetings aimed at specific needs of European companies, it holds internationally-oriented conferences, such as one on "Company Survival in the Science-Based Industries," recently concluded in The Hague. Among about 150 publications of the center are executive salary reports issued in six languages and studies on in-company training.

Put aside the tired old notion that a woman's place is in the home, says the International Executives Association. After 55 years the IEA has decided that a woman's place is in their president's chair. Mrs. Maria Vescia, vice-president of the International Division of Airwick Industries, is the new head of the IEA. Mrs. Vescia joined the organization in 1955 when it was called the Export Managers Club of New York. She has been secretary for the past seven years.

U.S. Gains Mainly In Smaller Markets

Virtually all of the principal trading nations increased their imports in the latest 12 months for which data are available but in most cases the rate of growth slackened. This weakening of demand for foreign goods was reflected in a slower rise in U.S. sales abroad.

American exporters, nevertheless, increased their share in half of the markets shown in the accompanying table, although the improvement was largely in the smaller developed countries and in the developing areas. Among this country's biggest outlets, the U.S. standing was enhanced only in Germany, Mexico, and Australia.

Most of the economically advanced countries have experienced an economic slowdown since late 1970. Industrial production generally registered minimal gains or in some cases actual declines. High unemployment remains a problem in a number of countries, especially the United Kingdom and Canada. Inflationary pressures, however, continue to be of almost universal concern. As a result, governments have had the difficult task of introducing measures to expand output and reduce unemployment without undue stimulation of price increases. Their efforts have been further complicated by the uncertainties arising from speculative capital flows and various currency changes.

Among the largest trading nations, the Netherlands boosted overall imports by nearly one fifth, while Germany, Japan, and Italy expanded their foreign purchases almost as rapidly. A few of the smaller European countries matched these increases while Yugoslavia and Austria recorded even stronger gains.

Nigeria was again the only developing market to raise imports by more than half. Purchases of foreign products by Brazil, Taiwan, and the Republic of Korea also remained buoyant. In contrast, both Libya and the Republic of Viet-Nam reduced their intake from abroad by nearly one fifth.

German share expands

U.S. shipments to Germany were less affected by the economic slowdown there than those of other suppliers. The resulting improvement in the U.S. share of the market continued a trend under way for more than a year. The sharp, 18 percent rise in the inflow of American goods stemmed largely from stepped-up deliveries of aircraft and electronic computers and associated equipment and from greater sales of agricultural products, paced by soybeans, tobacco, and animal feeds. Partially offsetting these gains were sharp declines in shipments of iron and steel items and nonferrous metals.

Sales of U.S. construction and mining equipment and power generating machinery to Australia were particularly expansive. This strong performance contributed significantly to the modest gain in the U.S. market position.

Purchases from this country by France, the Netherlands, and Japan rose substantially but the rate of advance from America's competitors was greater. The United States thus sustained share losses in these markets, although they were small. American exporters to France expanded sales of soybeans and animal feeds and also boosted shipments of coal and aircraft. The outflow of iron and steel products, on the other hand, plummeted as demand eased from the high levels reached during the economic boom. The slackening of economic growth in the Netherlands had only a slight impact on U.S. exports. Deliveries of electronic computers and aircraft climbed while soybeans also advanced markedly.

Japanese imports decelerated sharply, especially during the first six months of 1971, as the economic adjustment continued. Sales of U.S. goods were heavily affected, their rate of increase dropping by about half. Deliveries of iron and steel scrap, nonferrous metals, and organic chemicals fell sharply, while those of logs leveled off. Corn shipments were also down. Increased sales of aircraft, soybeans, wheat, and coal, the last almost entirely from higher prices, kept the U.S. share loss small.

Canadian imports rise

Imports from this country into Canada recovered slightly as economic activity in that market picked up. The speedup in purchases from other countries, however, was greater, further reducing our standing. Coal, agricultural machinery, and construction and mining equipment were among leading sales gainers for the U.S.

U.S. deliveries to Italy and Britain stagnated but other suppliers scored strong gains. After showing signs of a recovery last year, economic activity in Italy slowed again in early 1971 as labor unrest undermined business and consumer confidence. U.S. shipments dropped in various products, notably iron and steel and copper. Aircraft was the principal exception to this weakening as deliveries mainly of the new giant carriers rose significantly. Sluggishness in the U.K. economy resulted in similar declines in U.S. sales of metals as

PHOTO ON PAGE 31—Sydney U.S. Trade Center show featured on the spot heart diagnosis by Mayo Clinic, almost 10,000 miles away. Story is on Page 41. Health of Australian economy is also diagnosed in this issue, in story on Page 42.

well as electronic computers and parts and electronic components. The movement of tobacco fell considerably. As in other nations with major airlines, however, shipments of big U.S. planes surged.

Some of the smaller European nations increased imports of U.S. products much faster than their larger neighbors and, moreover, expanded the share of their purchases made in this country. Yugoslavia again more than doubled its intake from U.S. suppliers, primarily agricultural commodities such as wheat, soybeans, and corn. Increased shipments of wheat and corn to Portugal boosted U.S. sales by almost a third. Finland and Ireland also sharply raised their imports from this country, largely on the basis of increased arrivals of aircraft. On the other hand, receipts of U.S. products fell moderately in Spain as government measures to improve its payments position by restraining imports proved effective.

The market for U.S. goods expanded in most developing areas. A substantial sales gain in Mexico brought the U.S. share back to around 65 percent. Among the buoyant industrial items were motor vehicle parts and electronic components, the latter primarily for assembly into finished products for marketing in the United States. Agricultural shortages due to drought led to heavy purchases of corn and soybeans. The U.S. standing was also enhanced in Brazil, the second largest U.S. outlet in Latin America. A big gain in deliveries of planes sparked the rise of more than a third in arrivals from sources in this country.

A report on the value of total imports into all of the major free-world foreign markets for which current statistics are available, and the U.S. share of those markets, is published quarterly in* Commerce Today. *The preceding report appeared in the July 26 issue.

World Market

The 46 markets below accounted for 90 percent of 1970 imports into

Values in millions of dollars — Published

Country	1970 Imports			1971 Imports January through latest month				Import change in latest available 12-month period [4]		Reserves at end of second quarter	
	From world	From U.S.	U.S. share %	Latest month	From world	From U.S.	U.S. share %	From world %	From U.S. %	1970	1971
Germany, Fed. Rep.	29,817	3,293	11.0	July	19,568	2,210	11.3	+15	+18	8,816	16,696
United Kingdom	21,724	2,816	13.0	July	13,776	1,621	11.8	+13	− 1	2,791	3,620
France	18,918	1,897	10.0	July	12,240	1,098	9.0	+11	+10	4,447	5,655
Japan	18,883	5,565	29.5	June	9,869	2,750	27.9	+15	+13	4,084	7,800
Italy	14,939	1,543	10.3	June	7,923	796	10.0	+14	+ 1	4,680	6,114
Canada	14,500	10,311	71.1	Aug.	10,741	7,626	71.0	+ 7	+ 4	4,333	4,852
Netherlands	13,391	1,308	9.8	June	7,498	721	9.6	+19	+16	2,683	3,503
Belgium-Luxembourg	11,362	995	8.8	May	4,996	337	6.8	+11	+ 6	2,598	3,196
Sweden	7,005	609	8.7	June	3,465	318	9.2	+ 6	+ 6	645	965
Switzerland	6,483	552	8.5	June	3,600	306	8.5	+15	+ 7	4,299	5,083
Australia	5,091	1,292	25.4	June	2,541	586	23.1	+ 7	+ 8	1,723	2,554
Spain	4,749	897	18.9	Aug.	3,230	521	16.1	+ 2	− 4	1,390	2,358
Denmark	4,384	327	7.5	June	2,268	186	8.2	+ 9	+13	342	424
South Africa, Rep.	3,912	653	16.7	Mar.	1,125	137	12.1	+21	+ 6	1,346	853
Norway	3,697	267	7.2	July	2,300	142	6.2	+20	+ 6	664	959
Austria	3,549	121	3.4	July	2,404	84	3.5	+23	+23	1,540	1,886
Hong Kong	2,905	382	13.2	June	1,671	224	13.4	+18	+11	[1]	[1]
Yugoslavia	2,874	160	5.6	May	1,320	89	6.8	+43	+118	217	203
Brazil	2,849	918	32.2	....	....	....	....	+26	+35	1,011	1,415
Finland	2,637	137	5.2	July	1,468	70	4.8	+16	+41	401	527
Mexico	2,461	1,568	63.7	Feb.	371	239	64.4	+16	+18	695	[2] 855
Singapore	2,461	266	10.8	June	1,403	190	13.6	+18	+59	261	[3] 316
India	2,094	614	29.3	Feb.	384	85	22.1	− 3	− 1	1,116	[2] 1,108

Note: The countries shown above include the 46 major importers of U.S. merchandise in 1970 for which current data are available. In order to present comparable statistics for all countries, import data have been adjusted from an f.o.b. valuation to a c.i.f. valuation for Australia, Canada, Philippines, Republic of South Africa, and Venezuela. Reserves include official holdings of gold and foreign exchange, the gold tranche position, and Special Drawing Rights in the International Monetary Fund.

In the Far East, imports from the United States into Taiwan and the Republic of Korea were around one fifth higher, a rate of gain at least equal to that from other suppliers. The strong demand for foreign goods paralleled vigorous economic growth. The U.S. sales rise to the two countries stemmed mainly from large advances in cotton and wheat rather than from industrial products. In Taiwan, however, small increases were noted in machinery shipments. In Korea, bigger rice deliveries contributed to the strong U.S. performance.

Singapore continued as one of the fastest growing markets for American products. Unlike in prior periods, however, U.S. sales of electronic components leveled off and most of the increases resulted from stepped-up deliveries of construction and mining equipment and chemicals.

Among African nations, Nigeria doubled imports from this country, mainly from greater purchases of aircraft and construction and mining equipment. In contrast, curtailed demand for this equipment and pumps and centrifuges in Libya, due to slower development of its oil resources, brought a steep decline in overall deliveries from the United States.

Reserves continue climb

Fed primarily by dollars resulting from the large U.S. payments deficit and supplemented by the

Report Bureau of International Commerce

all free-world foreign markets and 91 percent of imports from U.S.

quarterly

Country	1970 Imports			1971 Imports January through latest month				Import change in latest available 12-month period *		Reserves at end of second quarter	
	From world	From U.S.	U.S. share %	Latest month	From world	From U.S.	U.S. share %	From world %	From U.S. %	1970	1971
Korea, Rep.	1,984	585	29.5	June	1,169	375	32.0	+19	+22	602	581
Greece	1,958	116	5.9	Apr.	474	29	6.2	+ 8	— 9	278	330
Venezuela	1,837	844	46.0	....	....	....	....	+ 5	— 4	989	1,202
Argentina	1,685	419	24.8	Apr.	595	146	24.5	+ 7	+14	707	522
Iran	1,632	217	13.3	....	....	....	....	+ 6	+ 1	261	315
Ireland	1,569	110	7.0	June	953	107	11.2	+19	+28	712	803
Portugal	1,556	107	6.9	May	527	43	8.1	+12	+32	1,371	1,546
Taiwan	1,524	364	23.9	May	633	148	23.4	+21	+21	531	564
Israel	1,451	326	22.5	Apr.	566	143	25.3	+ 9	+ 1	441	538
Thailand	1,293	193	14.9	Mar.	319	52	16.3	+ 4	+ 6	978	934
New Zealand	1,245	167	13.4	June	632	69	10.8	+15	+ 6	170	262
Philippines	1,209	355	29.4	June	608	164	27.0	+([4])	— 1	196	299
Pakistan	1,129	361	31.9	May	416	131	31.4	+12	+74	292	215
Malaysia [5]	1,104	[6] 92	[6] 8.3	June	533	35	6.5	+ 8	+42	688	834
Nigeria	1,059	153	14.6	Apr.	482	73	15.0	+63	+90	152	345
Turkey	827	150	18.2	May	460	44	9.7	+ 4	—25	218	442
U.A.R. (Egypt)	782	[6] 49	[6] 6.3	....	....	....	....	+23	+ 9	155	124
Peru	619	199	32.2	....	....	....	....	+ 3	+ 7	339	261
Libya	554	[6] 85	[6] 15.4	....	....	....	....	—18	—33	1,473	2,330
Viet-Nam, Rep.	550	[6] 244	[6] 44.3	....	....	....	....	—18	— 6	209	203
Trinidad & Tobago	543	89	16.4	Feb.	93	13	14.2	+12	+27	44	54
Jamaica	522	226	43.3	....	....	....	....	+18	+22	184	200
Ecuador	248	81	32.6	....	....	....	....	— 6	— 5	64	66

* Compared with preceding 12-month period.
[1] Not available. [2] End of April. [3] End of May. [4] Less than 0.5 percent. [5] Import data are for West Malaysia only. [6] Estimated from partial year data.
Source: Official trade statistics of listed countries. International Monetary Fund, *International Financial Statistics*.

International Monetary Fund's second allocation of Special Drawing Rights, the official reserves of this country's major trading partners rose to $84 billion by mid-1971. The new level reflected an unusual gain of more than $22 billion since the same time a year ago, with the developed nations once again accounting for the lion's share of the increase.

Intense activity on the currency front marked the second quarter of this year. Following a wave of speculation, the German mark and the Dutch guilder were permitted to float early in May, joining the Canadian dollar. Concurrently, the Swiss franc and the Austrian schilling were revalued.

German official holdings increased by nearly $8 billion during the 12 months ending June 30, reflecting a strong buildup throughout the period. In April and the first few days of May, speculative short-term funds poured into Germany, on one occasion exceeding $1 billion in a single day. Substantial reflows following the floating of the mark reduced the accumulation of reserves to below the peak reached in May. Earlier in the period, relatively high interest rates had attracted sizable inflows which, together with a strong trade surplus, contributed the bulk of the gain.

Japanese reserves neared $8 billion by mid-year, climbing by more than 90 percent. Over half the increase occurred in April-June, coinciding with a big trade surplus. Heavy capital inflows, partly speculative, also played an important role, particularly in May, so much so that the Japanese Minister of Finance imposed measures to dampen the movement.

The $1.4 billion boost in Italian holdings reflected large borrowing abroad encouraged by a rise in domestic interest rates. French reserves increased almost as much as the trade surplus continued and the strengthened franc attracted dollar inflows. Nine consecutive monthly gains in official holdings raised the U.K. total to $3.6 billion by June 30. Contributing importantly to this improvement was the continued surplus in the current account.

Spanish holdings advance

The reserves of a number of the other developed nations also advanced appreciably. Spanish holdings rose by nearly $1 billion, due largely to stepped-up borrowing from foreign sources and an improvement in the current account. High interest rates in Australia, meanwhile, lured overseas capital. As a result, reserves expanded by more than $800 million even as declining farm exports trimmed the trade surplus.

The Republic of South Africa was among the few countries to lose reserves in substantial quantity. Its holdings diminished by almost $500 million as imports rose much faster than exports.

The reserve positions of most developing areas generally weakened or improved at a slower rate during the period. Noteworthy exceptions were Libya, Venezuela, and Nigeria, all of which benefited from greater petroleum receipts. Heavy capital inflows sparked a big rise in Brazil's reserves. In contrast, both Argentina and Peru experienced a considerable drain in holdings. In Argentina, external debt repayments and an atypical trade deficit were largely responsible and, in Peru, reduced prices for copper and fish meal.

Harold Scott New Assistant Secretary; Two Others Named In Trade Field

Harold B. Scott, who has been Director of the Commerce Department's Bureau of International Commerce since May 1969, has been appointed Assistant Secretary of Commerce for Domestic and International Business.

He succeeds Robert McLellan, who has rejoined the management of the FMC Corp. as vice president and manager of international development in the FMC Machinery Group, with headquarters in Chicago.

Two Deputy Assistant Secretaries of Commerce in the international field have also been appointed. Robert P. Beshar is Deputy

Harold B. Scott

Assistant Secretary of Commerce for Domestic and International Business

Assistant Secretary for Domestic and International Business and Director of the Bureau of International Commerce. Dr. Edward L. Allen is Deputy Assistant Secretary for International Economic Research and Analysis, a newly-created position.

Scott, 54, a native of Tarrytown, N.Y., and a graduate of Yale, has had 26 years of experience in all phases of international business. From 1949 to 1952 he was vice president of foreign subsidiaries of Chas. Pfizer & Co., Inc. In 1953 he founded an international company in New York under his own name, and served as president until joining the Commerce Department. He has also served as an executive or director with Denver Chemical Co., Parachem Corp., Houbigant, Inc., and the Syracuse Supply Co.

Beshar, a Yale Law School graduate, has been a partner in the New York law firm of Hill, Betts & Nash, where he specialized in trade regulation and international commercial transactions. He was also board chairman of Energy Resources Corp., director of Design Research, Inc., and secretary of National Semiconductor Corp.

Dr. Allen has served since 1953 as chief of economic research at the Central Intelligence Agency, with primary responsibility for studies of all foreign countries. During this period he also taught economics at American University, from which he was awarded a Ph. D. in 1948. He has also held positions in the Department of Defense and in New York financial and manufacturing firms.

Mission To Sell Pumps, Valves In Middle East

The Commerce Department is organizing a trade mission to seek markets for pumps, valves, and compressors in the Middle East.

Scheduled for Dec. 6-22, this will be the first specialized Commerce mission—focusing on one group of related products—to visit Kuwait, Bahrain, Saudi Arabia, and Lebanon. Information from U.S. Foreign Service posts indicate that these markets offer a good potential for sale of this equipment.

As an integral feature, the Department is planning to include a half-day high-level seminar directed to the technological aspects of fluid power control. The seminar discussions, with speakers recruited from the mission members, are expected to attract key industrialists and government officials in the area to be visited.

Members will do business for the firms they represent, and will pay their own living and transportation costs. Operating expenses will be paid by Commerce.

To apply for membership on the mission, or for additional information, write: Trade Missions Division, BIC-926, U.S. Department of Commerce, Washington, D.C., 20230; or phone Herbert Socks, 202-967-3184.

Materials Handling Equipment Mission Scheduled For Europe

A trade mission specializing in materials handling equipment has been scheduled to visit Spain and Austria Nov. 29-Dec. 14. Now being organized by the Commerce Department, the group is to conduct business in Madrid, Barcelona, Vienna, Graz, and or Linz.

Austria has a new $750 million five-year heavy-industry improvement plan. Also, it is a bridge to Eastern European markets. Spain's imports of U.S. materials handling equipment have been fluctuating between $3 million and $7 million annually. The trend toward consolidation of small production units and modernization of plant and transport terminal facilities underpins market growth.

Participants will do business for their own firms and pay their own transportation and living expenses; the Commerce Department pays operating costs. Firms interested in joining or in obtaining additional information are invited to write: Trade Missions Division, BIC-926, U.S. Department of Commerce, Washington, D.C., 20230; or phone Richard Eisenmann, 202-967-2215.

Eximbank Chairman Reports Growing Opportunities In Venezuela, Colombia

Venezuela and Colombia offer markets for a wide range of U.S. products from consumer goods to industrial equipment, Eximbank Chairman Henry Kearns has reported after a recent visit to the two nations.

In conversations with numerous government officials and business leaders, Kearns said he was able to identify $370 million in potential U.S. exports to the two countries for fiscal 1972. Kearns also noted that "there is an appalling dearth of U.S. representation with very little apparent effort to service sales after they are made."

Some other highlights

Following are some other highlights from a report prepared by Kearns on his week-long visit.

"Venezuela's balance of payments situation is sound. Astute control of payment commitments and resistance to the temptation to over-borrow give the country a degree of foreign exchange stability that is unique," Kearns asserted.

Commenting on recent legislation that involves reversion to the Venezuelan State of certain petroleum concessions, a bill that has occasioned deep concern among foreign oil companies in Venezuela, Kearns said that "while there appears to be considerable difference of opinion as to the true meaning and effect of the legislation, during the Venezuelan conference I was repeatedly told that the petroleum bill was misnamed—that in place of calling it the 'reversion bill', it should have been called a 'bill to preserve the sanctity of outstanding contracts.' I was also informed at the highest level that Venezuelans look upon their country as 'an island in a sea of nationalism'."

Kearns was told by Venezuelan leaders of the emphasis now placed on potential opportunities in developing the great frontier area between the Orinoco and the Amazon. Almost totally uninhabited, these areas have not been explored or catalogued, and there is no specific plan as yet to turn the area's resources into useful products. However, the present Venezuelan Government is undertaking the development of a plan and a program that could transform the entire area. To do so will require a considerable amount of imported technology, vast sums of money, equipment, supplies, and other components, Kearns noted.

"We were informed," said Kearns in his report, "that some reversal of policy is pending regarding purchase practices. The example of the Caracas telephone system illustrates past practice that required the purchase decision through price incentive alone. As a result there are now 12 different types of telephone systems and an impossible maintenance situation. We were informed that it has now been determined that two systems will be adopted and standardized for the present and future. It is generally agreed that while there may be some additional initial costs, the end result will be of significant benefit to the country."

"Many elements in Venezuela, both public and private, can beneficially use Eximbank's Preliminary Commitment procedures through which we will provide full knowledge of available financing that can then be included in the consideration of many useful development undertakings," he said. "Further, the Eximbank Cooperative Financing Facility can serve a useful purpose in providing financing for new or expanding businesses, especially smaller entities which are so badly needed to provide employment and opportunity for capable young people."

Kearns has identified the following U.S. products that Venezuelan firms have expressed interest in importing during the current fiscal year. The values in parentheses are millions of dollars. Accompanying each group of items is the name of the interested Venezuelan organization.

Relending line of credit for breeding cattle ($1-$2), farm equipment (4-5)—Agricultural Development Bank.

Electrical equipment, gas turbines (2-10), hydroelectric project (50-60)—Venezuelan Electric Power Co.

Power transmission (3), iron ore refining facility (7), potential aluminum reduction (100-200), foundry equipment (5)—Guayana Development Corp.

Caracas metro (subway) (75-100), feasibility studies, engineering and geological surveys (2-25), hospital and health equipment (20-25), airport equipment (10-20), port development and equipment (15-20)—Federal District of Caracas.

Aircraft (35-50)—Ministry of Public Works.

Postal equipment (5-7), railway equipment (10), short-range aircraft (7-12), telephone, telegraph, telex equipment (20), feasibility studies and planning (1)—Ministry of Communications.

List continues

General machinery, equipment and supplies (10-20)—Venezuelan Development Corp.

Petrochemical plants (10-20), 110 MW thermal power plant (20-30), feasibility studies (1)—Venezuelan Petrochemical Institute.

Potential 800 million cu. ft. LNG liquefication plant (475-500) potential 700 million cu. ft. LNG liquefication plant (450-475)—Venezuelan Petroleum Corp.

Earth satellite station (3), color television system (10-30), educational television (10-20), expansion telephone system (5-10), cable

to Canary Islands (10-30)—National Telephone Co.

In Colombia, Kearns reported, inflation has been an important factor in deterring capital formation necessary to allow desirable economic development of internal resources. However, there appears to be a gradual development of modest-sized pools of financing. The Kearns delegation was informed by representatives of U.S. banks in Colombia that approximately one-half of the deposits are from Colombian sources and one-half from foreign investors.

Development path is clear

The promises of the Andean Pact are being widely discussed, with divergent views as to the blessings and problems. Kearns said it was clear to him that the economic development of Colombia will be accomplished through strengthening small and medium-sized entities and through the availability of technology, training, financing, and governmental cooperation.

"Representatives from all parts of Colombia recently attended a comprehensive seminar on small business financing. All conferees exhibited lively interest in the Eximbank Cooperative Financing Facility. I was impressed with the interest and knowledge that was displayed. This program can make it possible for very diverse elements of the country to progress through ability to purchase technology, equipment, and materials," he reported.

U.S. sale prospects

Prospects for U.S. sales to Colombia, in millions of dollars, and prospective Colombian purchasers, are:

Earthmoving and tunneling equipment (10-30)—Ministry of Public Works; used aircraft and spare parts (15-20)—Colombian National Airline; power generating equipment (21), power transmission lines (1-5)—Colombian Electric Power Institute.

Also, 1,000 buses (5-6)—Municipality of Bogota; nickle mining equipment (20-30)—Hanna Mining Co.; general equipment materials (5-10)—Bank of Bogota and Colombian Development Corp.; agricultural technology and equipment (5-10)—Agricultural Marketing Institute.

Also, printing and publishing equipment (1-1.5)—various printing and publishing establishments; steel mill equipment (6-10), coke ovens (10-15)—Steel Mill.

Commerce To Speed Export Leads By Direct Contact With U.S. Firms

A Commerce Department effort to put U.S. firms into speedier contact with buyers abroad looking for specific American products is under way.

The aim is to rush sales leads generated overseas to American companies' export departments by direct mail from Washington, D.C.

"In recent years, at least $16 million in initial export sales have been generated annually by our trade leads program. With our direct mail service we expect to augment this total," declared Wallace H. Pederson, director of the Trade Opportunities Project for Commerce's Office of Business Services.

Department of Commerce trade opportunities are transmitted from foreign purchasers through the United States Foreign Service. Many of these are published in the Worldwide Business Services section of *Commerce Today*. The 42 regional Commerce Field Offices also inform businesses in their areas of these leads.

The direct mail program will concentrate on certain trade opportunities and on the U.S. businesses interested in taking advantage of export leads. To begin, the project is covering five categories identified by the Bureau of International Commerce as having good export potential, following market studies in 20 countries.

The categories are:

► Electronic Data Processing Equipment

► Food Packaging and Processing Equipment

► Pumps, Valves, Compressors

► Airconditioning and Refrigeration Equipment

► Agricultural Machinery and Equipment

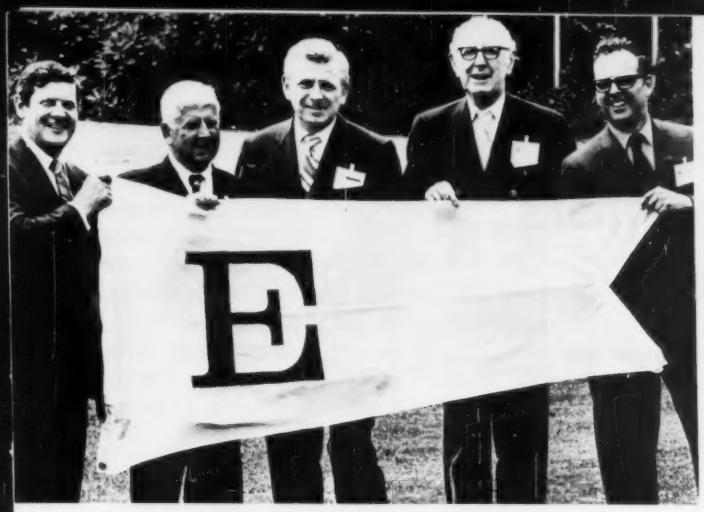
Pederson anticipates more than 100,000 mailings to industry, covering a possible 1,000 trade opportunities in these categories, over the next year.

"This will bring the trade leads to business much faster than they have ever received them in the past," he said. "Information on the leads will be transferred to cards and mailed to all firms listed in the Commerce Department American International Traders Index that are involved in one or more of the subject categories. This will occur within five days of their receipt in the United States."

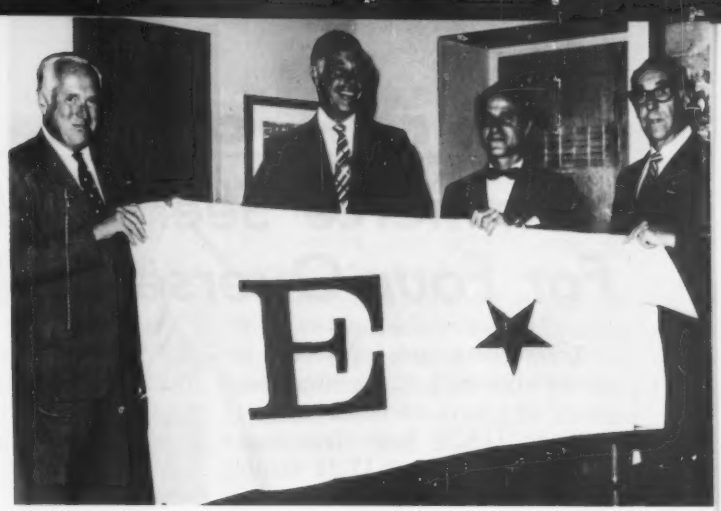
Any firm not on this list that is interested in receiving this direct mail service, he continued, should contact him at the U.S. Department of Commerce, BDC-541, Washington, D.C. 20230.

Duplicates of the cards mailed to businesses will be forwarded to Field Offices in the area of the firms contacted. Field Offices may then follow up directly.

Five kinds of trade opportunities are obtained by the Commerce Department—trade opportunities from foreign firms, government tenders, NATO tenders, foreign construction projects, and UNDP projects. The direct mail effort is involved only with the trade opportunities from foreign private firms. These, Pederson estimates, provide 5,000 to 6,000 trade opportunities each year, of an overall total of 10,000 received annually.



CONNECTICUT EXPORTER—*Branson Sonic Power's "E" flag is unfurled at ceremoney in Danbury. From left are Richard Kilbourn, Commerce's Hartford Field Office director; A. J. D'Angelo, vice president, Smith, Kline and French Laboratories; Raymond Sullivan, Branson's international marketing manager; James Kelley, retired Hartford Field Office director, and Branson president Stanley E. Jacke.*



NEW YORK PORT AUTHORITY STAR—*Harold B. Scott, Assistant Secretary of Commerce for Domestic and International Business, presented "E" Star award to Port of New York Authority. From left are Clifford B. O'Hara, Port commerce director of Port Authority; Scott, Howard G. Sloane, chairman, New York Regional Export Expansion Council, and Arthur C. Rutzen, New York Commerce Field Office director.*

Four Cited For Export Achievements

Two new "E" flags and two "E" Star banners are flying over headquarters of exporters from Connecticut and the Port of New York to Georgia and California.

The Port of New York Authority, which has a 20-man trade team making an average of 10,000 calls a year to promote exports, received the Presidential "E" Star. The bi-state agency is the first port organization to win the "E" Star since the award was established last year as a repeat honor to exporters.

An "E" Star to Scientific-Atlanta, Inc., of Doraville, Ga., recognized that firm's increase in exports of electronic instruments. Scientific-Atlanta manufactures electronic instruments, antenna tracking systems for defense and commercial use, underwater sound systems, electronic enclosures, commercial communications equipment and packaging equipment for the food industry.

Branson Sonic Power Co. of Danbury, Conn., a pioneer in the field of ultrasonics, won an "E" award for its overseas market developments since 1967. Branson is the world's leading manufacturer of ultrasonic plastic assembly equipment. In four years its sales in international markets have grown to represent more than one quarter of the company's total sales.

For its exports of construction industry materials International Materials Corp. of Tustin, Calif., received an "E" award. Its efforts to promote the utilization of the metric system in meeting foreign requirements also contributed to its expansion of overseas markets.

FOR EXPORT EXCELLENCE—*Gordon A. Allport, right, president, International Materials Corp., receives "E" award from William T. Lockett, Commerce's Los Angeles Field Office trade specialist.*

STAR FOR GEORGIA FIRM—*James H. Wakelin Jr., right, Assistant Secretary of Commerce for Science and Technology, presents "E" Star award to Glen P. Robinson, Jr., president, Scientific-Atlanta Inc., in ceremony at the Georgia plant.*

Trade Fairs, Centers

Commerce Seeks Exhibitors For Four Overseas Shows

Transducers and transducer instrumentation: U.K. American suppliers will have an opportunity to sell the U.K.'s large transducer market at an April 17-21 exhibit in the U.S. Trade Center, London.

U.S. leadership in aerospace engineering, based on reliability, miniaturization and weight-saving ruggedized controls, have helped American instrument manufacturers become accepted by British industry as being in an unusually strong position to offer the world's most advanced equipment.

U.S. instrument manufacturers can usually deliver their products sooner than their British competitors, and are believed to provide at least as good and often better technical service.

Market research has revealed a wide range of products which have significant sales potential in the U.K., including: linear motion transducers; angle, sine and cosine potentiometer transducers; load cells; shock, vibration and stress gauges; thermistors; high-volume flow meters; effluent analyzers; torque meters; medical transducers; accelerometers and audiometrics equipment.

Call Henry Weseloh at 202-967-4462, or write to BIC-942, U.S. Department of Commerce, Washington, D.C. 20230.

Solo exhibit of U.S. products: Iran. A second solo exhibition of U.S. products has been scheduled for May 13-19 by the Department of Commerce. At the first such exhibit, staged in May 1970, 59 exhibitors represented 74 American firms, and more than $12.8 million in sales resulted.

Iran is one of the most rapidly modernizing countries in the world as it pumps oil revenues into industrial development. Revenues are expected to increase by 27 percent to a total of $1.85 billion during 1971 as the result of an oil settlement. This is expected to result in a sharp rise in imports.

The U.S. is Iran's second largest supplier, with a market share of 14.4 percent totaling $326 million in 1970. Imports from the U.S. could jump as much as 25 percent by the end of 1971 as a result of Iran's industrial development program which depends heavily on imported capital goods. Gross national product will surge 12 percent in this year to top $10 billion. Imports will exceed $2.5 billion.

Contact Don Ryan, BIC-946, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-3137.

Automation Control Equipment: France. Recent market research indicates that automation is spreading to all sectors of French industry as manufacturers strive to modernize production facilities. Under the terms of the *Plan Mecanique* (1971-75), the French Government will ease industry's access to development capital for modernization and automation, with industrial investment expected to grow by 10 percent yearly to a total of $700 million in 1975.

U.S. producers will have a chance to expand sales in this growing market at a Feb. 14-18 automation control exhibit in the Paris Trade Center.

French industrialists traditionally have looked to the United States for the latest developments and highest quality in automation devices. The following types of equipment, which appear to have especially good sales potential, will be featured in the exhibit: numerical and pneumatic control equipment, measuring and positioning devices, speed controls, transfer machine controls, servomechanism systems, fluidic controls, low inertia electric motors, and electro-hydraulic stepping motors.

A three-day colloquium on automation and numerical controls for machine tools has been proposed to complement the show.

For details, contact John L. Wolf at: BIC-946, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-4942.

Building products and construction equipment: Scandinavia. The highest construction starts per capita in Europe are in Sweden and Denmark, and U.S. manufacturers of building products and construction equipment are encouraged to exhibit at the Mar. 20-25 show for the construction industry at the U.S. Trade Center in Stockholm.

The four Nordic countries imported a total of $24.8 million worth of building products from the United States in 1970, an increase of 89 percent since 1967. Increases were registered for all types of building products except construction plastic.

U.S. exports of construction equipment to Scandinavia increased by 30 percent to $31.6 million during the same period.

Sweden, and to a lesser extent, Denmark have the highest wage rates in Europe, which, combined with increasingly heavy competition, are forcing Scandinavian builders to invest in the latest technologically-advanced equipment and methods. Scandinavian consumers also are the most wealthy in Europe and have sophisticated tastes in style and design.

A list of U.S. equipment which a recent survey identified as having high sales potential in Scandinavia is available from C. E. Walls, BIC-946, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-4256.

ON THE SPOT TESTS—*Two Australian ladies took turns using the Ivac Corp.'s electro-thermometer at the Sydney Trade Center's show of advanced medical equipment. Dr. M. Rosenberg of the Royal Prince Henry Hospital interprets the results.*

Sydney-Mayo Clinic Linkup Shows Computer's Medical Role

At the Sydney U.S. Trade Center, a 19,000-mile diagnosis of the condition of a human heart has shown Australians the value of advanced and computerized U.S. medical equipment.

The Australian representative of Avionics Research Corp. had been trying to arrange a demonstration of its Dynamic Electrocardiogram Instrumentation to one of Australia's leading cardiologists for six months, without success. At the personal invitation of the Trade Center's planning director the cardiologist attended a demonstration of the equipment conducted at the Trade Center by a leading U.S. heart specialist, Dr. Ralph Smith (see demonstration photo on Page 31).

Relayed to Minnesota

An electrocardiogram was taken of a prominent Australian distance runner and relayed by computer to the Mayo Clinic in Rochester, Minn., almost 10,000 miles away, where it was immediately studied and the analysis flashed back to Sydney by computer.

Impressed, the Australian specialist requested the equipment on a trial basis. If purchased, this would be the first sale of this type of equipment in Australia. The fact that it was chosen by one of Australia's acknowledged leaders in the cardiac field is expected to be a key factor influencing future sales.

Apart from the usual Trade Center sales objectives, this exhibition was conceived with the idea of introducing an entirely new product line to the Australian market. A dramatic approach was thus sought. The demonstration of an EKG transmission to the Mayo Clinic and the return analysis provided such a "stopper."

A total of 675 visitors registered at the Aug. 30-Sept. 3 exhibit, most of them doctors and hospital administrators whose invitations had been targeted by the Trade Center's marketing staff.

While substantial sales had not been anticipated, about $1.2 million in immediate and projected sales are expected to result from the show. However, the major purpose of the exhibit was to stimulate the thinking of the Australian medical profession regarding a revolutionary change in their operating methods—the use of computerized equipment. In this regard, the Sydney Trade Center staff feels that the prognosis is good.

Firms Can Exhibit Consumer Goods, Boats, Snack Items At Three European Fairs

International trade fairs in three European nations are open to participation by U.S. exhibitors.

The Czechoslovak Government has invited U.S. businessmen to participate in the April 28-May 5 International Consumer Goods Fair in Brno. The Fair will offer businessmen an excellent opportunity to sell consumer products and develop contacts with the most important Czechoslovak buyers. **Write:** either the Embassy of the Czechoslovak Socialist Republic, 3900 Linnean Ave., NW., Washington, D.C. 20008, or Brno Trade Fairs and Exhibitions, 1, Vystaviste, Brno, Czechoslovakia (TELEX: 06294-5, Brno).

The annual Helsinki International Boat Show, to be held from Feb. 11-20, 1972, is open to all foreign manufacturers of and agents for boats, motors and boating accessories. Applications for space must be made by Oct. 30. **Write:** Finnish Fair Corp., SF-00250, Helsinki 25, Finland.

EUROSNACK, the international trade exhibition for grill and snack bar services, will be staged in Cologne's fair buildings Nov. 12-15, 1972. A total of 253 firms took part in the first EUROSNACK last November, and their products were seen by 14,100 visitors from 32 countries. **Write:** Cologne International Trade Fairs, 5 Cologne 21, P.O. Box 21 07 60.

Australian Growth Eases After Two Boom Years

The Australian economy is showing more moderate growth with some unevenness in output and demand, reports the U.S. Embassy in Canberra. For the financial year ending June 30 (FY-1971), gross national product in constant prices increased by 3.9 percent. This was less than the very good gains in the two previous years.

The agriculture sector continues in recession. Rural production during FY-1971 declined by 3 percent in volume and 8 percent in value.

Mining production generally showed strong growth during the year, particularly for iron ore, bauxite, copper, nickel concentrate, natural gas, and crude oil. These reflect the development of production from mineral discoveries of recent years.

AUSTRALIA'S CAPITAL—*Above is a view of Canberra. The U.S. Embassy there reports that activity has slowed.*

Private investment spending has been one of the leading areas of expansion in demand. Fixed capital expenditure on nonresidential buildings and on other items of plant and equipment has shown strong growth. Residential construction, however, has shown no gains over the previous year.

Consumption expenditures ran about 8 percent ahead of the year earlier. This increase is barely in keeping with the rise in wages, or the increase in the consumer price index plus the population increase. New vehicle registrations during FY-1971, for example, were only slightly above the year earlier. However, there were indications of a higher rate of growth in consumer spending in the June quarter.

The available labor force and the number of employed persons each increased by about 3 percent during the past year, a strong rate of increase.

The labor situation is generally tight but some easing has taken place. Additions to the labor force because of immigration and because of increasing employment of married women have continued to provide some flexibility in a situation of virtually full employment. The registered unemployed are equivalent to 1.2 percent of the labor force. About half of the unemployed are outside of the metropolitan areas which reflects the depressed position of rural industries.

There has been a steady rise in the number and extent of labor disputes in Australia in recent years. During 1970, the number of labor disputes increased by 35 percent, the number of working days lost rose by 22 percent, and the estimated loss of wages was up by 35 percent over the preceding year. The Commonwealth Government is conducting a major review of its Conciliation and Arbitration Act with a view to strengthening its provisions. It is also consulting with employer and trade union representatives regarding operation of the Act. No decisions have yet been taken regarding changes in labor relation procedures.

Trade gains

During FY-1971, Australian exports grew by 6 percent to reach $4,904 million. Large increases were recorded in exports of cereals, sugar, iron ore and concentrates, coal, chemicals, and some manufactures. There was a decline in exports of iron and steel and the value of exports of wool.

Imports rose by 7 percent to $4,648 million. The largest increases were for chemicals, machinery, and iron and steel. Imports of petroleum fell substantially as domestic crude production expanded.

Payments for invisible transactions showed the usual large deficit. Net apparent capital inflow was $1,546 million, over $600 million higher than during the previous year. Consequently the balance of payments showed an overall surplus of $674 million.

Official Australian gold and foreign exchange reserves increased by $831 million during the past 12 months to reach a total of $2,554 million. Australian officials believe that this strong reserve position gives them greater flexibility in dealing with domestic inflation and any adjustments that may be necessary with respect to international exchange rates.

Cost and price increases have recently shown an accelerating trend. During FY-1971, the consumer price index increased by 5.4 percent (against 3.7 percent for the previous year). An important factor in sharply rising costs throughout the economy has been a round of wage increases stem-

ming from the National Wage case decision in December 1970 by the Commonwealth Conciliation and Arbitration Commission. Wages have increased by 10 percent during the past twelve months. Additional wage increases averaging 8 to 10 percent seem likely in the year ahead because of the further interaction of wage and price increases.

The Commonwealth Budget for FY-1972 foresees expenditures and revenues roughly balanced at $9.9 billion, approximately 10 percent higher than last year. The Commonwealth Treasurer announced that the Budget strategy is aimed directly at combating inflationary forces by restraining the growth of public authority spending. The Budget, moreover, will seek a domestic surplus (excess of revenues over expenditures within Australia) of over $700 million. To provide additional revenues, rates of company and personal income tax have been raised, as have been postal rates, radio and TV license fees, and customs duties and excise taxes on petroleum and tobacco products.

Top sales prospects

U.S. exporters now sell over $1.2 billion in goods to Australia each year and supply one fourth of Australia's imports. Sales opportunities should remain excellent for a wide range of products that may be used in the development and processing of Australia's mineral resources and equipment of its industries. Products that incorporate the most modern technology have the best sales prospects. These include automated business machines, data communications and graphics equipment, pumps, valves, and compressors, as well as engineering and technical services. Prospects are excellent also for sales of machines and equipment for testing and controls, packaging, materials handling, transportation, excavating, mining, and ore processing.

The Australian Government without imposing specific obligations has increasingly asserted that it would like foreign firms investing in Australia to be sensitive to national aspirations. These include allowing opportunity for Australian citizens to rise to executive positions in foreign affiliates in Australia and for Australian interests to hold equity participation in new ventures in Australia by foreign firms. Generally, these wishes are considered to have been satisfied to a high degree by U.S. firms investing in Australia.

To obtain or hold a share of the Australian market for their product lines, American exporters must be prepared to respond to changing conditions and requirements of the market and to heightened competition. Changes in the alignment of international currencies which are just now beginning to take place seem likely to improve the competitive pricing position of U.S. products. British accession to the European Economic Community should bring an end to Commonwealth Tariff Preferences which up to now give an advantage to British products over U.S. goods in the Australian market. Finally, the Australian Tariff Board is beginning a systematic review of the tariff structure to eliminate any excessive level of protection that may be found with respect to industrial products. Each of these developments may result in new or better opportunities for sales of U.S. goods.

On the other hand some other developments may require U.S. firms to make greater efforts if they are to retain their established market share. Australia is about to begin conversion to the metric system of weights and measures. By 1976, it is expected to have completed 70 percent of the necessary conversion. For example, by early 1972, packaged goods will be expected to show the metric weight or volume of contents.

Australia offers a favorable climate for investment from abroad. Already over 600 U.S. firms have established subsidiaries and affiliates in Australia engaged in mining, manufacturing, and services. Affiliates of overseas firms are excluded from doing business only from a few areas of national interest and otherwise face few restrictions on their activities in Australia.

OFF EASTERN VICTORIA—*Australia's domestic crude output is rising fast. Here, an ESSO-BHP offshore operation.*

British and Japanese exporters are continuously making highly competitive efforts to improve their export sales to Australia. Other highly industrialized countries including France, Germany, Belgium and Italy are now becoming more attracted by the potential of the Australian market and are stepping up their sales efforts. Australian industries are also diversifying the range and improving the technology behind their products. American exporters can get greater sales in Australia only if they respond to these challenges.

The U.S. Trade Center for Australia, located in Sydney, can effectively help U.S. firms to increase their sales to Australia. The Trade Center offers firms an opportunity to take part either in regular programmed exhibits featuring specific product lines or in individual promotions.

U.S. Faces New Challenges In Growing Spanish Market

The growing Spanish economy is currently importing at the impressive annual rate of just under $5 billion. At current share of the market rates, U.S. firms are garnering a very respectable $830 million annually in sales to this market.

But the news is not all good, states John F. Troy, Commercial Attache at the U.S. Embassy in Madrid. Non-U.S. competition has picked up substantially in recent months with the result that the U.S. share of the market has fallen from the 18.8 percent level of a year ago to 16.6 percent. The challenge is there for those U.S. exporters who are willing to meet it. Those that do will be rewarded with increased export sales.

What the future holds for the Spanish economy for the remainder of the year cannot be precisely predicted, but indications are that the economy has finally made the turnaround from the depressed conditions of last year and early 1971. One cautionary note, however: business confidence has not fully recovered and private sector investment decisions are still being deferred in spite of the fact that bank liquidity has been exceptionally high for most of the year. For the first five months, general imports rose only slightly over the same period last year.

Counterbalancing the foregoing is the fact that imports for June showed a substantial jump, establishing a record for that month of $450.7 million. This is approximately 15 percent over the monthly average of 1970. Without the results of several more months, it is impossible to be sure that the change in the curve will be maintained. However, given the governmental decisions which have recently been made and the various actions already taken, prospects for a prompt upsurge in import demand are well founded.

For the prospective exporter to Spain, several important points should be considered along with the aforementioned caveats.

Point one: In the so-called recession of 1970, the gross national product still increased in real terms by 6.3 percent over 1969, reaching a volume of $32 billion. The growth pattern over the past ten years has been nothing short of spectacular and there is nothing to indicate that this pattern has changed. Financial sources still predict a 6-6.5 percent increase for this year.

Point two: Spain has decided that it will continue to move forward and has the intellectual and physical wherewithal to carry out its desires. It, in effect, has cast its lot with Europe; its agreement with the European Common Market is a first step which is sincerely intended to end ultimately in full membership. To be a full member, Spain must be more competitive. Its industrial base must be reorganized, consolidated and modernized. All of this means more and more high grade capital equipment.

Point three: Spain can pay. Prospects for this year's harvest are good; agricultural export markets are particularly favorable. Tourism earnings are running 23.9 percent ahead of last year. Tourism in 1970 contributed over $1.5 billion to the Spanish foreign exchange reserves. Exports generally have been doing quite well and are covering an increasingly larger share of import costs. Total foreign exchange reserves now exceed $2.2 billion and are still climbing. Spain's international credit reputation is excellent.

Deliberate actions

The slowdown, such as it was in 1970, was brought on deliberately when the managers of the economy realized in late 1969 that the economy was overheating. Actions to force the turnaround have been just as deliberate. The Bank of Spain's rediscount rate has been cut to 6 percent. Money supply is now up nearly 8 percent over this time last year. Domestic credit is up over 16 percent. Restrictions on credit transactions have been eased, and extended special rediscount lines for capital goods industries have been approved. The 10 percent prior deposit system for all imports was allowed to expire on June 30. Added to these monetary measures has been greatly stepped-up budgeting for social infrastructure expenditures which had been halted last year. It is in this area of major construction that the prospects for quick increases in U.S. sales to Spain appear the most encouraging.

On July 24, the Government accepted the proposal of a consortium of major private banks together with a construction company for a $280 million toll road

BARCELONA'S LATEST—*The York Division of Borg-Warner is supplying the cooling equipment for the nearly completed 23-story Edificios Trade building.*

from Tarragona to Valencia. Actual work on the project is expected to begin by mid-1972. This is not a dream castle in Spain. The work will be financed through $70 million paid-in capital of the consortium company and $70 million in domestically-placed bonds. The Banco Central, one of Spain's largest private banks, will subscribe half of the paid-in capital and guarantee half of the remainder. The remaining $140 million will be provided through international credits.

On the same day, approval was granted for four major public works in the Barcelona area. These include a new railway connecting the Barcelona-Sans suburb with the Barcelona International Airport budgeted at $6 million; extension and improvements of the Barcelona Subway Line IV at a cost of approximately $9 million; extension of the Subway Line V, also at $9 million, and two other subway improvement works at a total cost of $3 million. These projects will all be in the system operated by Ferrocarril Metropolitano de Barcelona, S.P.M.

Of all the projects where realization could boost U.S. exports to Spain in the relatively near term, the most exciting is the Fourth Integrated Steel Mill to be constructed at Sagunto in the Province of Valencia. The excitement is well justified. This will be the largest single project in the history of Spain, with a total cost expected to exceed $1.4 billion. An official call for proposals has been issued with a deadline of Oct. 30.

Given the official impetus behind this project, the availability of substantial official credits and other concessions, and the fact that it has been under consideration for several years, optimistic expectancy has set early 1972 for beginning of construction after a rapid adjudication of the concession. This may be overly optimistic, but production under the First Phase calls for a million-ton capacity of sheet coils by 1975-76. First Phase investment would amount to $300 million.

SPAIN IS MOVING AGAIN—*The market for U.S. goods is rising as the economy picks up from the downturn of last year and early 1971. Above, the city of Cartagena.*

It is too early to tell how extensive or intensive the international competition for this project will be, but considering its size and its long-term effect on foreign buying, it is expected to be strong. The call for proposals limits foreign participation to 45 percent ownership. Altos Hornos de Vizcaya, S.A., in which the United States Steel Corp. has a sizable participation, has been actively interested in the project for several years.

Steel mill and heavy construction equipment exporters should not be alone in actively working the Spanish market. U.S. exporters whose equipment is in any way related to the field of atomic power generation should also find Spain productive in the near term. Corollary to the basic plans for greater and more modern industrialization of the Spanish economy is the need for more electric power.

Current studies show that additional hydroelectric capacity is limited by absolute scarcity of usable sites and by greatly increasing costs relative to nuclear and conventional thermal facilities. Without Government funds for dam construction for irrigation and water control, the utilities cannot justify additional hydro facilities. Spanish Government authorities are reluctant to push for greater reliance on fossil-fueled thermal units as this would require Spain to rely too heavily upon imported fuel.

For over a year, the major electric utility companies and the Government have been in an impasse over if and in what form the existing official assistance available for the construction and operation of electric generating facilities would be continued and extended to nuclear power facilities. This lack of agreement, possibly assisted by tight money, earlier this year halted several major projects. Trade sources indicate that this impasse is about to be resolved.

When the logjam breaks, which is expected very shortly, activities in this field will begin to approach the importance of the steel mill mentioned above.

More nuclear power

Spain already has two atomic plants operating and one under construction. Two additional nuclear centers, fully planned, are awaiting an early green light. The Lemoniz Plant, with 900 megawatt units to be built for Iberduero, S.A., one of Spain's largest electric utilities, will probably be the first to move, followed quickly by the Almoraz Plant, also 900 megawatts.

The import content of these installations will be heavy. The U.S. Export-Import Bank has already

issued precommitments for financing of approximately $250 million.

Fuerza Electricas de Cataluna, S.A. (FECSA), alone or in consortium, is also in the atomic parade. Once the basic policy decisions have been made, FECSA is expected to proceed with its enriched uranium plant, probably in Tarragona. It has already announced a $70 million budget for new investment for this year. Trade sources estimate approximately $500 million of new investment in facilities in the industry as a whole for this year.

New refinery

The Government has also decided that it will be the major participant, through its holding company, Instituto Nacional de Industria (INI), in the long-awaited Tarragona petroleum refinery with 60 percent of the capital. Private interests, both foreign and domestic, will provide the remainder. Capacity for this refinery is programmed at 7 million tons annually. Offshore wells brought in early this year by Shell in the area of the mouth of the Ebro River indicate more than adequate crude supply. INI, whose credits from the Bank of Spain through 1968 (approximately 11 billion pesetas) have just been converted to capital by an act of the Spanish Parliament, has begun a major reorganization of its coal-mining subsidiary, Hunosa, S.A., and plans additional investments of 7 billion pesetas in the 1971-73 period. The Soviets have already secured major contracts for new equipment for Hunosa.

If all of the foregoing makes it appear that this local observer is optimistic, it is with solid reason. These are all immediate projects that cannot help but generate a major increase in Spanish foreign buying throughout the entire range of industrial equipment. How much of it U.S. manufacturers and exporters manage to capture will depend on how hard they go after it.

Growth of Taiwan Economy Is Paced By Foreign Trade

This year so far is one of the best in the Republic of China's recent history of rapid economic expansion, according to the U.S. Embassy in Taipei. The nation's extraordinary economic growth during the first six months of 1971 was paced by foreign trade, which rose to an all-time high of US$1.93 billion, a gain of 36.2 percent.

Rapid expansion was registered in almost all areas of the economy save coal mining—a depressed industry—where output declined 9.6 percent. Agricultural production is reported to have increased 7.2 percent over the corresponding period of 1970 because of an excellent first crop harvest, and expanded output in fisheries, animal husbandry, and commercial crops.

Industry, excluding mining, demonstrated the most spectacular growth—21.7 percent—particularly in construction (27.6 percent); manufacturing (22.6 percent); and utilities (18.3 percent). The textile industry (up 43 percent) was especially prosperous, with production of synthetic fibers up 36.9 percent and cotton yarn 20.5 percent. Manufacture of plastics and plastic products, cement, and telecommunications equipment, together with shipbuilding, all registered above average gains.

Republic of China officials have been predicting that GNP growth in 1971 would reach $6.2 billion, with growth in real terms of at least 10 percent. It now appears this estimate may be considered modest; provided present growth trends continue for the remainder of the year, GNP at current prices will probably pass $6.33 billion—well above the preliminary 1971 estimates. Real growth should be between 11 to 12 percent.

The monetary sector also demonstrated rapid expansion in the first six months of 1971. The money supply increased by $135 million, 15.5 percent above the December 1970 level.

During the first six months of 1971, the urban consumer price index showed an increase of only 4.1 percent while wholesale prices remained practically unchanged. There remains unanswered the question to what extent monetary expansion on Taiwan can continue to exceed the rate of GNP growth plus the increased demand for money without noticeably affecting the price level.

Unit labor costs on Taiwan have changed little in the past three years, which has contributed to its favorable investment climate and price stability.

Plan stresses chemicals

The Fifth Four-Year Plan (1968-1972) for Economic Development stresses expansion of petro-chemicals, among other industries, in order to continue the rapid rate of economic growth and the transformation of Taiwan's industrial structure to ensure development of a more modern, capital intensive base. Recent indications are that there will be increased emphasis on the development of the chemical industry in coming years. The Government is reportedly planning the investment of $113 million in expansion of petrochemicals during the next three years; the Chinese Petroleum Corp. has announced a ten-year development plan for the petrochemical industry, and has established a wholly owned subsidiary, Chinese Petrochemical Development Corp., to promote progress in this sector. Two petrochemical complexes, the Northern Center in Toufan and the Southern Center in Kaohsiung, have been set up.

The external sector, which has been a prime mover in the rapid

economic development of Taiwan, continued to play its predominant role in the first six months of 1971. Total exports of $993.7 million were 39 percent above the corresponding period of 1970; imports, at $938.7 million, registered a 31 percent gain, resulting in a favorable balance of $55 million for the first six months compared with a small $2.2 million surplus for the same period in 1970.

The trend for the remainder of the year should not depart significantly from this pattern, barring restrictions imposed by the Republic of China's major trading partners, and the Republic of China may attain for the whole year a trade surplus in excess of $100 million.

There has been little change in the direction of Taiwan's trade. The United States remains the number one customer for the island's exports (42.2 percent of the total) followed by Japan (13.4 percent), Hong Kong (7.8 percent), and Germany (4.4 percent).

With reference to imports, there was little difference over the past year. Japan remains the island's chief supplier with 38.6 percent of the total, and the United States is a close second at 34.4 percent.

More rapid rate

Trade with the United States rose at an even more rapid rate than total trade. Exports to the United States during the first six months registered an increase of almost 61 percent, with imports from the United States somewhat behind at 44 percent. This resulted in a net trade deficit for the United States with the Republic of China of $100.5 million, compared with $38.6 million in the first half of 1970.

This trend is expected to continue, and, for the third year in a row, the United States will have a trade deficit with the Republic of China. Moreover, each year the deficit widens—$65 million in 1969; $116 million in 1970; and possibly $180-200 million in 1971.

TAIWAN-U.S. TRADE SOARS—*Imports from the United States jumped 44 percent and exports to this country over 60 percent during the first six months of 1971, faster than Taiwan's overall rate, keeping cargo handlers at the port of Kaohsiung busy.*

There remains a good potential for expansion of U.S. exports to Taiwan, including consumer goods. During the first half of 1971 liberalization of controls on imports continued apace; over 500 commodities were decontrolled as compared to 1,000 for all of 1970.

High effective protective tariff rates, however, limit the rate of increase for imports. Nevertheless, the prospect for marketing of foreign goods remains better than ever, given the continuation of lifting of import controls, possible tariff revision, increased per capita income, expanding consumer demand for durable goods, and further industrialization of the economy.

In addition to favorable trade opportunities, Taiwan beckons the foreign investor. During the past five years, foreign investment approvals, excluding overseas Chinese, rose consistently from year to year, from $20.9 million in 1966 to $109.2 million in 1970, with the electronic industry in the forefront. Many of the more prominent multinational corporations have established plants for the manufacture of their products, some for the domestic market, the majority for export. Among the many multinational firms on Taiwan are American Cyanamid, General Instrument, Matsushita, Philips N.V., RCA, and Singer.

Although investment in the consumer electronics industry may have peaked for the present (foreign investment approvals declined in the first half of 1970 by 39 percent), opportunities remain for foreign investment in sophisticated electronic components, and especially industrial electronics, where the surface has barely been touched.

Projects are planned

Many projects in the planned expansion of the local chemical industry have been reserved for private investment. These include production of low and high density polyethylene, synthetic rubber, and octyl alcohol. In addition, the government is interested in joint ventures for the production of the following petrochemical intermediates: styrene monomer, acrylonitrile, acetaldehyde, and acetic acid. Downstream production by private investors of consumer items, using the above basic materials, for the local market and export will be encouraged.

Other areas which private investors might wish to explore include: steel, automobile accessories, precision machinery, and aluminum fabrication.

Stable prices and unit wage costs, low cost and adaptable labor, an expanding market, and positive government incentives all increase the attractiveness of Taiwan for foreign investors.

Greece Maintains High Growth Rate; Prospects For U.S. Sales Are Mixed

The Greek economy has grown steadily over the past two decades, notes the U.S. Embassy in Athens, and the outlook for the seventies is equally promising.

Both 1969 and 1970 were good years for the Greek economy. In the latter year Greece was right on the target of the five-year plan projection of 7.5 percent. In 1970 industrial production rose by 11 percent to spearhead the country's drive towards greater prosperity, and gross fixed investment was 7.1 percent over 1969.

Another good year

Greece is expected to maintain a seven plus percent rate of growth in 1971, the third consecutive year it will have done so. Industrial and agricultural production are expected to rise nine and four percent above 1970 levels. Other bright spots in the economic picture are the soaring earnings from tourism and shipping. Still another is the fact that consumer prices are rising less rapidly than is the case for Greece's major trading partners. Last, Greece will attain the benchmark one thousand dollars per capita income this year.

Serious problems remain, however. Further growth is dependent on the effective management of Greece's chronic trade and payments deficit. Only one-third of imports are covered by exports. Even if the large invisible receipts are tabulated Greece ran a $415 million deficit on current account in 1970. This amount was covered by capital inflow, including supplier credits. Greece has other economic problems as well, such as structural ones in industry and agriculture.

It also has a political one, i.e., concern on the part of Greece's friends and allies over the question of evolution toward parliamentary government and the guarantee of liberties so essential to an atmosphere of stability and confidence.

All of these factors, some favorable and some not so favorable, have a bearing on the U.S. trade and investment outlook vis-a-vis Greece.

The United States sold about $202 million worth of goods to Greece in 1970, and data for the first three months of 1971 show a further improvement. The United States appears to be maintaining its position of holding roughly nine percent of the Greek market and, after West Germany, as the second supplier to the Greek market.

The United States exported this amount to Greece largely through the sale of machinery and transport equipment, chemical and pharmaceutical products, semi-manufactured materials, general manufactured goods and agricultural goods. The best prospects for future sales would seem to lie in the same areas, except for agricultural products, where a decline is going on.

Some special emphasis should be placed on tourist industry equipment. Tourism has been the fastest growing sector of the economy for some years, and foreign visitors are expected to jump from two to eight million between now and1980. Even more important is the fact that the largest single group of tourists are American and some 60 percent of tourist earnings are derived from this group.

Continuing with the sector approach to the sale of U.S. goods, it would seem that the following sectors stand the best chance of accelerated growth during the seventies: ship building and repair, minerals, metallurgy and light manufacturing. The large package deals, such as the $200 million Niarchos project, also offer possibilities for exports. Finally, recent studies by the Greek Center of Planning and Economic Research indicate that an investment potential of $700-800 million exists in the economy, over the next seven to eight years, principally in the following sectors; chemical products, textiles and ready-made clothing, mining and minerals, foodstuffs and beverages, wood, furniture, paper, machinery, leather, footwear and furs.

Opportunities for large equipment sales are often best found in the public and semi-public projects of the Greek Government as the country's underdeveloped infrastructure is given more and more attention. The power, telephone and railroad organizations as well as the Government itself are spending considerable sums of money on the development of their infrastructure and networks.

For example, the Government is promoting the following projects, some with the help of international agencies: construction of five higher technical education centers, thus opening an avenue for the sale of educational equipment; irrigation projects such as deep-well drilling and the development of water resources; and industrial estates near several provincial towns.

Some obstacles

There are some severe obstacles to a substantial expansion of exports of U.S. goods to the Greek market. The Greek Government is looking for suppliers who would be willing to accept surplus agricultural commodities, particularly tobacco and citrus fruit. Bilateral clearing accounts, mainly with Eastern European countries, create pressures to trade with those countries.

Trade also tends to be channeled to those countries which provide supplier credits. As of December 1970, only 7.2 percent of Greece's outstanding supplier credits were obtained from the United States. Countries eager to sell their equipment are often extremely flexible

in their financing arrangements, and sometimes include soft terms in their package. The competitiveness of U.S. products will be further weakened in November by the continuing reduction in tariff barriers between Greece and the Common Market.

Other problems

Other problems include the distance from U.S. ports, the tendency of U.S. firms with subsidiaries to supply goods from their European factories, and an active "Buy Greek" campaign now under way designed to stimulate Greek production in an effort to reduce imports. A vigorous attempt is being made to channel government procurement to local suppliers, and to require foreign firms to purchase locally all available materials and products. With a faster deterioration in the trade gap in recent months, the Greek Government is also considering and applying methods to slow down the rapid rise in imports.

U.S. exports to Greece have also been generated from American investments in Greece, and potential exporters should explore this avenue to the development of business here. Greece offers increasing opportunities for American investment, and since the 1953 foreign investment law came into effect some $275 million worth of American investment capital representing some 78 projects has flowed in, much of it in the form of U.S. capital equipment exports.

Some of the advantages to U.S. investment—and accompanying investment possibilities for the export of U.S. goods and services—are worth mentioning. One is Greece's special relationship with the EEC. By this means, manufactured products can be imported into the EEC duty-free while Greek products are protected from EEC competition on a sliding tariff scale ending in 1984.

Other advantages are geographical—Greece is close to Africa and Near Eastern markets as well as markets further east should the Suez Canal reopen—and psychological—Americans are liked by a majority of Greeks because many have relatives in the United States and because of U.S. aid in the post-World War II period.

Finally, in response to special tax and other incentives, 159 new oreign enterprises opened regional supervisory offices in Greece during 1970, making a total of 403 such operations, 45 of which are U.S. firms.

Some recent investment approvals involving U.S. investors follow. They are an $8.8 million investment by the CERRO Corporation to develop asbestos mines, $5 million by Del Monte to expand a fruit and vegetable plant, $2 million by Kodak to expand color film developing facilities, $1.3 million for a knitwear plant expansion, $1.2 million by Westinghouse to expand electrical equipment production, $1.1 million by Foreign Industries Inc., for the establishment of a paper container plant and $1 million by Gerber to produce baby foods. Mention should also be made of a total of $34 million that will probably be spent by U.S. firms in oil exploration on Greek territory (both land and sea) over the next five years, on the basis of contracts concluded with the Greek Government.

Thus the outlook for future U.S. exports and for the United States to maintain its share of the Greek market is mixed. One thing, however, is clear; the Greek market has proved to be attractive to many American firms.

It seems probable that the crucial difference as to whether U.S. exporters will increase trade will depend on how vigorously and how determinedly they try to compete in this admittedly small and tough but interesting market, a market which offers possibilities well beyond the confines of the Greek border.

Political Changes, New Power Plant Brighten Haiti's Economic Prospects

Two outstanding events on the Haitian scene during 1971 have reinforced the prospect for continuation of Haiti's recent period of significant, if modest, economic expansion: President for Life François Duvalier died after almost 14 years of rule, to be succeeded in an atmosphere of calm and order by his son, Jean Claude. And the new president inaugurated in mid-year a modern hydroelectric power complex that had been planned and under construction for many years.

The U.S. Embassy in Port-au-Prince goes on to say that development possibilities thus are heightened in that two necessary conditions—governmental stability and the availability of power—seem assured, at least over the short-term. When added to other factors such as the government's improved fiscal position, renewed business and investment activity and an increased flow of tourists, Haiti's potential seems unusually bright in comparison with the economic stagnation that prevailed over much of the decade of the sixties.

Poverty pervasive

It should not be overlooked, however, that Haiti is the poorest country in the Western Hemisphere, with the great majority of its population struggling to survive on marginal subsistence farms or in small trade activities. Haiti is a predominantly rural, agricultural nation with a high population density and little in the way of modern infrastructure outside the capital and a few of the larger

towns. Per capita income figures are among the lowest in the world. The literacy rate is no more than ten percent, whereas the infant mortality rate and the incidence of disease are high. Unemployment and underemployment, while not quantified, are persistent problems.

Bright spots

Nonetheless, there are bright spots to be found in this picture of seemingly unrelieved gloom. The capital, Port-au-Prince, and the north coast port city of Cap Haitien, the epicenters of the nation's monetized economy, are in the midst of a small economic boom. Increased tourist arrivals over the past few years have played a part, especially at Cap Haitien, after Haiti had long drifted in the touristic doldrums as the rest of the Caribbean surged ahead in that lucrative sector.

More importantly, however, Haiti's favorable official attitude toward foreign investment, its supply of low-cost but adept and willing labor, and its proximity to the U.S. market, along with good transport facilities between the two countries, all have combined in the Port-au-Prince area to bring about a remarkable rise in the light industry sector specializing in the processing or assembly of U.S.-origin components for export back to the United States. Probably close to 10,000 new jobs have been created through this increased business activity during the past three years, and millions of dollars of export earnings have been generated. This trend continues apace, abetted by active prospect for investment in sugar mills and tourist facilities.

Other favorable developments are discernible. The Haitian Government's fiscal affairs have taken a remarkable turn for the better during the past two years; from a net negative reserve position, the National Bank has raised its convertible holdings to some $7 million at recent report, the highest level since 1954.

Contributing to this vastly improved position have been higher earnings from exports and tourism, increased remittances from abroad, and better fiscal management. The Haitian Government is again servicing its foreign debts in an orderly fashion, following a period of several years when it had fallen into arrears on payments. Private bank accounts are on the rise, as well; there is no evidence that capital flight currently is a problem. The Haitian currency is freely convertible, and there are virtually no delays in accomplishing exchange transactions.

Aid is a factor

Foreign aid, although small in scale, continues to be provided and to have an impact on the economy. United Nation estimates place the level of this external assistance, from both public and private sources, at $8.6 million during 1970. Most of this aid was directed toward public health and humanitarian endeavors in rural areas, with not insignificant sums being spent on agricultural activities and small works projects. Additionally, a $5.1 million Interamerican Development Bank loan for a municipal water supply was approved during the past year, and other loan funds are under discussion.

The importance of the relatively recent upswing in the monetized segment of the Haitian economy, and the causative factors behind it, will be of interest primarily to the potential U.S. investor in off-shore assembly industries. Trade relations between the United States and Haiti are unusually extensive and close, and are expected to remain so; but the limited size of the Haitian economy precludes any large-scale increase in U.S. exports in the near future. U.S.-Haitian aid relations, on the other hand, for a number of years have been restricted mainly to assistance in the humanitarian and public health fields which is furnished through multilateral channels.

Investment prospects are bright, however, in light industries that depend upon hand labor for finishing or processing operations. The growth of that subsector is the outstanding Haitian economic success story of recent times. U.S. businessmen interested in assembly operations have access to an inexpensive nearby labor force which is guided by an experienced cadre of local entrepreneurs. The Haitian Government welcomes and facilitates such business activities, whether principally on a contractual or an equity basis; liberal tax and customs concessions are available. (It should be noted, however, that U.S. import restrictions on cotton textiles have affected plans for expansion in this field, heretofore one of the most active of the assembly industries.)

Upswing in tourism

Tourism, too, should provide an attractive investment outlet over the medium-term. The steadily increasing number of tourists arriving in Haiti already has led to investment in facilities by European-based enterprises. The rising touristic trend is expected to continue, as Haiti gains a more equitable share of the Caribbean tourist trade.

Investment and commerce related to the mainstay of the Haitian economy, agriculture, in time should become more viable. One new U.S.-owned sugar mill began operations during the past year and another is in the advanced planning stages. Truck farming near Port-au-Prince and livestock raising and meat packing have recently shown signs of future expansion which could lead to increased exports. Finally, construction activities in badly needed areas of Haiti's transportation and communications system likely will increase as the Government moves forward with its developmental plans. Financing from international lending institutions will be required, however, for any significant improvement of the Haitian infrastructure and will be contingent upon feasibility studies.

Eximbank's Support For U.S. Exports Increases Strongly in Fiscal 1971

The Export-Import Bank of the United States has achieved a significant increase in its financial support for U.S. exports.

The total value of exports to be supported by Eximbank's fiscal 1971 authorizations of loans, guarantees, and insurance rose to $6.9 billion—a 26 percent jump over the $5.5 billion supported in fiscal 1970 and 137 percent over the $2.9 billion mark set the year before.

The year's activity, registered in the Bank's recently released annual report, boosted the total value of U.S. exports supported by the Bank since its establishment in 1934 to $44 billion.

Authorizations climb

Actual authorizations of loans, guarantees, and insurance during the year reached $5.4 billion as compared to $3.9 billion in FY 1970 and $2.5 billion in fiscal 1969. The major elements of this total are presented as follows:

► 244 direct loans totaling $1.8 billion were extended to finance "big ticket" items in such areas as nuclear power, communications, transportation, steel production, and mining. This represents a $200 million increase from the previous year.

► The relatively small increase in direct loans is due in part to Eximbank's continuing efforts to encourage private sources of funds to participate in financing individual transactions. The success of this policy is also indicated by the rise in authorizations of financial guarantees from $336 million in FY 1970 to over $1 billion in FY 1971.

► Authorizations of medium-term guarantees and short- and medium-term export credit insurance rose to $2 billion from $1.4 billion in FY 1970.

► Discount loans dropped slightly from $584 million in FY 1970 to $522 million, primarily because of the easing of credit conditions during the year. (Discount loan authorizations had posted an increase in FY 1970 from the $185 million level of FY 1969.)

Major developments which will strengthen the Eximbank's ability to lend financial support to U.S. exporters have occurred recently. Three in particular are noteworthy and have been reported in detail in past issues of *Commerce Today:*

► A major reorganization and expansion of the services offered by the Foreign Credit Insurance Association (FCIA), a private organization that works in cooperation with Eximbank to offer export credit insurance, involving plans to raise the volume of exports insured from the FY 1971 total of $1.6 billion to $10 billion in FY 1975. (See May 31 issue, Page 57.)

► Establishment of the Private Export Funding Corporation (PEFCO) to provide additional capital to finance U.S. exports. (See April 5 issue, Page 52, and May 3 issue, Page 55.)

► Enactment of the "Export Expansion Finance Act of 1971," which contains sections that raise Eximbank's commitment authority, release it from certain budgetary restraints, and permit it to support East-West trade transactions subject to the President's approval. (Aug. 23 issue, Page 51.)

The Bank's projections show that it plans to use this capability to the fullest extent: Its planning calls for a jump in total authorizations from the $5.4 billion in FY 1971 to $12.5 billion during the current fiscal year. And by 1976, this figure is projected to reach $31.6 billion. As Eximbank notes in its report, these are certainly ambitious goals, but achievement of them is necessary for the United States to solve its balance of trade problems.

INTERNATIONAL TRADE FAIR STATUS—*This was recently granted to the Pacific Logging and Timber Exposition by the U.S. Department of Commerce. This major logging and timber processing equipment show will be held with the 62nd Pacific Logging Congress Nov. 3-7 in the Coliseum Complex, Portland, Ore. Overseas interest in logging equipment is increasing as world commerce in timber products expands to new highs. Don Chapman, director of Commerce's Portland Field Office (left) notified Oregon's Governor Tom McCall (center) and Trade Development Specialist Stan Sparks of the certification, which permits duty-free entry of exhibition items. International trade fairs in the U.S. in 1972 and 1973 are listed on page 53.*

World Trade Actions

Auto Tariff, Other Steps Cited From Five Countries

Argentina: A law regulating the automobile industry was issued July 21 with the stated objectives of concentrating the industry, increasing efficiency, lowering prices, saving foreign exchange for imports, promoting Argentine technology and exports, and making domestic Argentine ownership dominant in parts production.

Important provisions of Law 19,135 include:

- A foreign firm may continue as a parts producer but may not introduce new items if a comparable item is produced by an Argentine-owned firm;
- A manufacturer may continue indefinitely producing all current automobile models but these must be produced in specified minimum quantities in order to introduce a new model;
- Imports of tools and dies are highly restricted except for production of items to be exported;
- An inducement to export is provided in the form of an allowance of 50 percent of the value against taxes.

A copy of the law, in Spanish or in an unofficial English translation, can be obtained on loan from the American Republics Division, OICR, BIC, U.S. Department of Commerce, Washington, D.C. 20230.

Greece: The Ministry of Finance has issued a pamphlet summarizing the rules and regulations governing the importation and operation under temporary duty and tax-free status of motor vehicles owned by foreign tourists and businessmen established in Greece.

As a general rule, foreign tourists may import and operate their automobiles duty and tax-free for a period of 12 months, extendable to 24 months. However after the initial 12-month period, the regular road taxes must be paid.

Foreign businessmen working in Greece in "productive" type enterprises may import their automobiles duty-free but are required to pay the road tax. They may also import their household effects duty-free for the duration of their stay in Greece.

Spain: The Ministry of Commerce, under Decree No. 2040 of Aug. 13 (State Gazette No. 210/71) has reduced the ad valorem import duty on uncarded and uncombed cotton or lint cotton, Tariff Item 55.01 (Brussels Nomenclature) from 18 to 4 percent. This partial suspension of import duty is effective from Sept. 2 through Dec. 1.

With the accession of the United States, Mexico, Nigeria and Italy to the "United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards," the number of member countries has increased to 25. This convention provides rules and conditions allowing foreign arbitral awards issued under national arbitration laws to be recognized and enforced in other participating nations.

A study of the U.N. convention together with highlights of the arbitration laws of many convention member countries is included in The Bureau of International Commerce's newly revised publication, "Foreign Business Practices." This pamphlet, which was inadvertently listed as free in the Oct. 4 issue of* Commerce Today, *has a price of 60¢ per copy.

South Africa: Almost $620 million is expected to be spent on road construction in the period 1972-75. Expenditures will increase 15 percent per year from the base year of 1972. The Cape and Transvaal provinces will spend a total of $412 million, or 67 percent.

Sweden: Two major commercial banks announced on Sept. 21 that they will merge as of Jan. 1. The banks are Skandinaviska Banken and Stockholms Enskilda Bank; the new merged bank will be called *Skandinaviska Enskilda Banken.* The merger will be the largest single financial transaction in Swedish history. The new bank will rank largest among the Nordic commercial banks, about 20th in Europe, and about 50th in the world, according to Swedish press reports. The Swedish Government is expected to give its required approval to the transaction.

Spain: The Ministry of Commerce has announced in the State Gazette of Sept. 22, a duty-free quota of 50,000 metric tons of iron or steel coils (BTN no. 73.08) valid from Sept. 22 until Jan. 31. The regular duty is 13 percent *ad valorem* plus 1,000 pesetas per metric ton. The Director General of Customs Policy and Importation in the Ministry of Commerce is responsible for the allocation of the quota.

OECD: Developing nations received a record $15.6 billion in 1970 from the 16 nations of the Development Assistance Committee of the Organization for Economic Cooperation and Development. The OECD reports that U.S. assistance of $5.97 billion, which combines both official and private sources, was also an all-time record.

The U.S. effort also came closer to the 1 percent of GNP which the DAC had targeted for aid to the developing world. U.S. assistance amounted to 0.55 percent of its 1970 GNP, while in 1969 it had reached only the equivalent of 0.51 percent.

Worldwide Business Services

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors overseas. Details on licensing and joint venture proposals, opportunities to sell to foreign firms and government agencies, and appoint agents, and on major construction and expansion projects and U.S. visits by foreign buyers are presented in this section.

U.S. Trade Fairs, 1972-73, Showing Diverse Goods, Listed For Exporters

For U.S. businessmen interested in expanding exports through participation in exhibitions held in this country, some 150 U.S. industry expositions and trade shows are listed below.

The chronological presentation, 1972-73, is only a partial listing of such exhibitions, as it includes only those whose managements have indicated to the Commerce Department an interest in foreign exhibitors and or foreign visitors. Information is taken from the latest data available to Commerce. The Department cannot assume responsibility for accuracy of dates or the outcome of any transactions with the fair managements. The address accompanying each item is that of the fair management—not of the fair itself. Questions about these events may be addressed to the Trade Fairs and Expositions Division, BDC-588, U.S. Department of Commerce, Washington, D.C., 20230 (202-967-5676).

International trade fairs in countries outside the United States will be summarized in upcoming issues of *Commerce Today*.

January 1972

7-16. San Francisco National Sports & Boat Show, San Francisco. 325 Pacific Ave., San Francisco, Calif., 94111.

9-12. Concrete Industries Exposition, San Diego. 400 N. Michigan Ave., Chicago, Ill., 60611.

9-15. American Furniture Mart—International Home Furnishings Show, Chicago. 666 Lake Shore Dr., Chicago, Ill., 60611.

9-15. Merchandise Mart—International Home Furnishings Show, Chicago. Promotion Dept., Merchandise Mart, Chicago, Ill., 60654.

10-14. Automotive Engineering Congress & Exposition, Detroit. 2 Penn Plaza, New York, N.Y., 10001.

16-19. National Exposition for Food Processors, Miami Beach. 7758 Wisconsin Ave., Washington, D.C., 20014.

16-20. International Heating & Air Conditioning Exposition, New Orleans. International Expositions Co., 200 Park Ave., New York, N.Y., 10017.

16-21. SW Furniture Market, Dallas. 4313 N. Central Expressway, Dallas, Tex., 75205.

17-21. Southern Furniture Market Show, High Point. P.O. Box 828, High Point, N.C., 27261.

19-21. National Boat Show, New York City. 537 Steamboat Rd., Greenwich, Conn., 06830.

21-27. California Gift Show, Los Angeles. Trade Shows Ltd., 3510 Council St., Los Angeles, Calif., 90004.

23-26. Southeastern International Poultry Convention, Atlanta. SE Poultry & Egg Associates, 1456 Church St., Decatur, Ga., 31930.

23-27. National Association of Home Builders Exposition, Houston. 1625 L St., NW., Washington, D.C., 20036.

24-27. National Plant Engineering & Maintenance Show, Philadelphia. Clapp & Poliak, Inc., 245 Park Ave., New York, N.Y., 10017.

25-27. Microwave Exposition, Palo Alto. Technical Industries, 34 W. Putnam Ave., Greenwich, Conn., 06830.

26-30. 3rd Annual Miami International Travel Camping Show, Miami. Trade Show Presentations, 114 Park Lake St., P.O. Box 6696, Orlando, Fla., 32803.

27-29. Pacific Automotive Show, San Francisco. 714 W. Olympic Blvd., Los Angeles, Calif., 90015.

28-Feb. 3. Hobby Industry Trade Show, Chicago. 200 5th Ave., Suite 1605, New York, N.Y., 10010.

29-Feb. 1. National Swimming Pool Institute Exposition, Dallas. 2000 K St., NW., Washington, D.C., 20006.

29-Feb. 2. National Automobile Dealers Equipment Exhibition, Las Vegas. 2000 K St., NW., Washington, D.C., 20006.

February 1972

4-13. International Boat Show, Boston. 1300 Boylston St., Boston, Mass., 02167.

6-8. Memphis Gift & Jewelry Show, Memphis. Helen Brett Enterprises, Inc., 6 E. Monroe St., Chicago, Ill., 60603.

6-9. San Francisco Gift Show. Bert Tonkin, L355 Market St., Space 223-A, San Francisco, Calif., 94103.

7-10. Automotive Accessories Manufacturers Exposition of America, New York City. 555 E. City Line Ave., Bala-Cynwyd, Pa., 19004.

8-10. National Electronic Packaging & Production Convention and Exposition, Anaheim. National Expositions Co., 14 W. 40th St., New York, N.Y., 10017.

13-17. National Sporting Goods Association Show, Chicago. 717 N. Michigan, Chicago, Ill., 60611.

14-17. Air Conditioning, Heating & Refrigeration Institute Exposition, Dallas. 815 N. Ft. Myer Dr., Arlington, Va., 22209.

19-21. New England Hardware Show, Boston. 80 Main St., Reading Mass., 01867.

20-25. Trade Mart Gift, Jewelry & Housewares Show, Dallas. 2100 Stemmons Freeway, Dallas, Tex., 75207.

20-29. Chicago Automobile Show, Chicago. 35 E. Wacker Dr., Chicago, Ill., 60601.

21-23. Pulp & Paper Industry Exhibition, New York City. National Expositions Co., 14 W. 40th St., New York, N.Y., 10018.

March 1972

4-10. American Concrete Institute Conference and Exhibition, Dallas. P.O. Box 4754, Redford Station, Detroit, Mich., 48219.

6-10. Pittsburgh Conference and Exhibit of Analytical Chemistry & Applied Spectroscopy, Cleveland. Mellon Institute, 4400 5th Ave., Pittsburgh, Pa., 15213.

9-15. Associated General Contractors of America Convention and Exhibition, Houston. AGC of America, 1957 E St., NW., Washington, D.C., 20006.

13-16. Western Metal & Tool Exposition, Los Angeles. Metals Park, Ohio, 44073.

15-17. International Automotive Service Industries Show, Chicago. 407 S. Dearborn St., Chicago, Ill., 60605.

18-24. Philadelphia Gift Show. Little Brothers Shows, Inc., 220 5th Ave., New York, N.Y., 10001.

20-23. Institute of Electrical & Electronics Engineering Exhibit (IEEE), New York City. 345 E. 47th St., New York, N.Y., 10017.

20-24. International Converting Equipment Exposition—Convert '72, Chicago. The Show Co., 1605 Cahuenga Blvd., Los Angeles, Calif., 90028.

22-26. International Sports, Camping, Vacation Show, New Orleans. The Rivergate, P.O. Box 60046, New Orleans, La., 70160.

26-30. International Gas Turbine Conference & Products Show, San Francisco. Gas Turbine Div., Box 188, Ho-Ho-Kus, N.J., 07423.

April 1972

4-6. National Electronic Packaging & Production Conference and Exhibition, Chicago. National Exposition Co., 14 W. 40th St., New York, N.Y., 10017.

10-13. National Material Handling Show, Chicago. Shea Exposition Corp., 1326 Freeport Rd., Pittsburgh, Pa., 15238.

12-14. National Truck Trailers & Equipment Show, Anaheim. A. Byron Perkins & Associates, Inc., 3951 E. Hunt-

ington Drive, Pasadena, Calif., 91107.

17-19. American Association of Petroleum Geologists Conference and Exhibition, Denver. Box 979, Tulsa, Okla., 74101.

17-20. National Packaging Exposition & Conference, New York City. Clapp & Poliak, Inc., 245 Park Ave., New York, N.Y., 10017.

24-28. National Engineering Conference & Tool Exposition, Chicago. 20501 Ford Rd., Dearborn, Mich., 48128.

26-29. ACE-West II Exposition, Los Angeles. Philip R. Freeman & Associates 77 Jack London Square, Oakland, Calif., 94607.

30-May 3. Offshore Technology Conference and Exhibition—Society of Petroleum Engineers, Houston. 6200 N. Central Expressway, Dallas, Tex., 75206.

30-May 4. Dallas Toy Show. 3000 Trade Mart, Dallas, Tex., 75207.

May 1972

2-4. National Oil Heat & Air Conditioning Exposition, New York City. National Exposition Co., Inc., 14 W. 40th St., New York, N.Y., 10018.

3-5. International Truck, Trailer & Equipment Show, San Francisco. 1240 Bayshore Highway, Burlingame, Calif., 94010.

7-12. New Electronics Show, Las Vegas. 100 S. Wacker Dr., Room 1702, Chicago, Ill., 60606.

8-10. International Semiconductor Power Converter Conference, Baltimore. Semiconductor Division, Westinghouse Electric Corp., Box 100, Youngwood, Pa., 15697.

8-11. Design Engineering Show, Chicago. Clapp & Poliak, Inc., 245 Park Ave., New York, N.Y., 10017.

8-11. National Microfilm Association Exhibition, New York City. 8728 Colesville Rd., Suite 1101, Silver Spring, Md., 20910.

8-12. AFS Castings Congress & Exposition, Philadelphia. 400 N. Michigan Ave., Chicago, Ill., 60611.

15-18. AFIP Spring Joint Computer Conference and Exhibition, Atlantic City. 210 Summit Ave., Montvale, N.J., 07645.

20-24. National Restaurant Convention & Exposition, Chicago. 1530 N. Lake Shore Dr., Chicago, Ill., 60610.

22-25. Mariport '72, Philadelphia. Mariport, Inc., 1601 W. Lafayette Blvd., Detroit, Mich., 48216.

23-27. American Institute of Industrial Engineers, Anaheim. 345 E. 47th St., New York, N.Y., 10017.

27-June 4. U.S. International Transportation Exposition, Dulles International Airport, Washington, D.C. Federal Aviation Administration, Department of Transportation, Washington, D.C., 20590.

June 1972

6-8. Microwave Exposition, New York City. Technical Industries, 34 W. Putnam Ave., Greenwich, Conn., 06830.

11-14. Consumer Electronics Show, Chicago. Charles Snitow Organization, 331 Madison Ave., New York, N.Y., 10017.

13-15. National Electronics Packaging & Production Conference and Exposition, New York City. National Expositions Co., 14 W. 40th St., New York, N.Y., 10017.

18-24. American Furniture Mart International Home Furnishings Show, Chicago. 666 Lake Shore Dr., Chicago, Ill., 60611.

18-24. Merchandise Mart International Home Furnishing Show, Chicago. Promotion Dept., Merchandise Mart, Chicago, Ill., 60654.

July 1972

8-12. National Printing Equipment Show, New York City. 605 N. Cahuenga Blvd., Los Angeles, Calif., 90028.

9-13. Southern Furniture Market Show, High Point, N.C. P.O. Box 828, High Point, N.C., 27261.

9-14. Home Furnishings Mart Show, Dallas. P.O. Box 4667, Dallas, Tex., 75206.

9-14. Southwest Furniture Mart Show, Dallas. 4313 N. Central Expressway, Dallas, Tex., 75205.

10-12. Western Packaging Exposition, Los Angeles. Clapp & Poliak, 245 Park Ave., New York, N.Y., 10017.

16-19. Southern Jewelry Show, Atlanta. Chandler Bldg., Atlanta, Ga., 30303.

16-21. Los Angeles Home Furnishings Market, Los Angeles. 1933 S. Broadway, Los Angeles, Calif., 90007.

23-26. National Fancy Food & Confection Show, New York City. Charles Snitow Organization, Inc., 331 Madison Ave., New York, N.Y., 10017.

23-29. California Gift Show, Los Angeles. Trade Shows Limited, 3510 Council St., Los Angeles, Calif., 90004.

26-28. U.S. International Aerospace Exposition, Milwaukee. General Mitchell Field, Milwaukee, Wis., 53207.

30-Aug. 2. New Orleans Gift Jewelry & Decorative Show, New Orleans. Helen Brett Enterprises Inc., 6 E. Monroe St., Chicago, Ill., 60603.

August 1972

1-3. AMA Education & Training Equipment Exposition, New York City. Clapp & Poliak, Inc., 245 Park Ave., New York, N.Y., 10017.

6-9. San Francisco Gift Show, San Francisco. L355 Market St., Space 223-A, San Francisco, Calif., 94103.

6-10. Printing Equipment Exposition, Cleveland. 7599 Kenwood Rd., Cincinnati, Ohio, 45236.

11-20. Washington State International Trade Fair, Seattle. Washington State International Fair Corp., Seattle, Wash., 98104.

13-18. Beauty & Barber Supply Institute, New York City. 551 5th Ave., Suite 517, New York, N.Y., 10017.

17-27. Kentucky State Fair, Louisville. P.O. Box 21179, Louisville, Ky., 40221.

18-27. Iowa State Fair, Des Moines. State House, Des Moines, Iowa, 50319.

25-29. National Shoe Fair of America, Chicago. New Yorker, 34th St. & 8th Ave., New York, N.Y., 10001.

25-Sept. 4. Michigan State Fair, Detroit. 1120 W. State Fair Ave., Detroit, Mich., 48203.

26-Sept. 4. Minnesota State Fair, St. Paul. Fairgrounds, St. Paul, Minn., 55108.

28-31. National Hardware Show, New York City. Charles Snitow Organization, Inc., 331 Madison Ave., New York, N.Y., 10017.

29-Sept. 4. New York State Exposition, Syracuse. Fairgrounds, Syracuse, N.Y., 13209.

September 1972

3-8. Trade Mart Gift, Jewelry & Housewares Show, Dallas. 2100 Stemmons, Dallas, Tex., 75207.

5-15. International Machine Tool Show, Chicago. Clapp & Poliak, Inc., 245 Park Ave., New York, N.Y., 10017.

8-17. New Jersey State Fair, Trenton. P.O. Box 669, Trenton, N.J., 08604.

19-22. Western Electronic Show & Convention, Los Angeles. 3600 Wilshire Blvd., Suite 1920, Los Angeles, Calif., 90005.

22-Oct. 1. State Fair of Oklahoma, Oklahoma City. 500 N. Land Rush St., Oklahoma City, Okla., 73107.

23-27. International Woodworking Machinery & Furniture Supply Fair, Louisville. National Association of Furniture Manufacturers, 666 North Lake Shore Dr., Chicago, Ill., 60611.

23-29. Philadelphia Gift Show, Philadelphia. Little Brothers Shows Inc., 220 5th Ave., New York, N.Y., 10001.

24-28. Public Works Congress & Equipment Show, Minneapolis. 1313 E. 60th St., Chicago, Ill., 60637.

25-28. National Premium Show, Chicago. 407 S. Dearborn St., Chicago, Ill., 60605.

27-29. The Bobbin Show, Atlanta. P.O. Box 527, 1120 Shop Road, Columbia, S.C., 29202.

30-Oct. 4. National Tire Dealers & Retreaders Association Exhibition, Las Vegas. 1343 L Street, N.W., Washington, D.C., 20005.

October 1972

1-4. National Builders Hardware Exposition, Atlanta. 1290 Avenue of Americas, New York, N.Y., 10019.

1-6. Food & Dairy Industries Exposition, Atlantic City. 1145 19th St., N.W., Washington, D.C., 20036.

7-22. State Fair of Texas, Dallas. P.O. Box 26010, Dallas, Tex., 75226.

8-11. Society of Petroleum Engineers Exhibition, San Antonio. 6200 N. Central Expressway, Dallas, Tex., 75206.

8-12. Prestressed Concrete Institute Exhibition, Atlanta. 250 W. Wacker Dr., Chicago, Ill., 60606.

8-13. Water Pollution Control Federation Exhibition, Atlanta. 1740 Maple St., Northfield, Ill., 60093.

9-11. Automotive Parts Rebuilders Association, Las Vegas. 255 N. Washington St., Rockville, Md., 20850.

9-12. ISA Instrument Automation Conference, New York City. 400 Stanwix St., Pittsburgh, Pa., 15222.

10-12. SME Mid America Engineering Conference & Tool Exposition, St. Louis. 20501 Ford Rd., Dearborn, Mich., 48128.

11-13. Pan American Hospitality Exposition, Miami. 141 N.E. 3rd Ave., Suite 1008, Miami, Fla., 33132.

11-14. Screen Printing Association International Convention and Trade Show, Detroit. 1145 19th St., N.W., Washington, D.C., 20036.

14-22. North Carolina State Fair, Raleigh. P.O. Box 5565, Raleigh, N.C., 27607.

16-19. National Die Casting Exposition & Congress, Chicago. 1601 W. Lafayette, Detroit, Mich., 48216.

16-19. Metal Show & Materials Engineering Congress, Cleveland. Metals Park, Ohio, 44073.

16-20. 27th Southern Textile Exposition, Greenville, S.C. Textile Hall Corp., Greenville, S.C., 29606.
18-20. National Electronics Conference and Exhibition, Chicago. 1211 W. 22nd St. (#2), Oak Brook, Ill., 60521.
20-27. Southern Furniture Market Show, High Point. P.O. Box 828, High Point, N.C. 27261.
23-25. National Electrical Contractors Exposition, Boston. 1730 Rhode Island Ave. NW., Washington, D.C., 20036.
25-29. Business Equipment Exposition, New York City. Prestige Expositions, 11 W. 42nd St., New York, 10036.
27-29. National Sporting Goods Association Show, Anaheim (Calif.). 717 N. Michigan Ave., Chicago, Ill., 60611.
30-Nov 2. Packaging & Converting Machinery Show, Chicago. 2000 K St., N.W., Washington, D.C., 20006.
31-Nov. 3 Visual Communications Congress, Philadelphia. Box 923, Lakeland, Fla., 33802.

November 1972

6-9. National Hotel & Motel Exposition, New York City. 141 W. 51st St., New York, N.Y., 10019.
11-19. Western Design Engineering Exposition, Anaheim. Technical Industrial Expositions, 34 W. Putnam Ave., Greenwich, Conn., 06830.
12-16. Atom Fair, Washington, D.C. National Expositions Co., Inc., 14 W. 40th St., New York, N.Y., 10018.
13-16. AFIP Society Fall Joint Computer Conference, Las Vegas. 210 Summit Ave., Montvale, N.J., 07645.
14-16. SME Mid-Atlantic Engineering Conference & Tool Exposition, Baltimore. SME, 20501 Ford Rd., Dearborn, Mich., 48128.
26-30. Society of Exploration Geophysicists, Anaheim. P.O. Box 3098, Tulsa, Okla., 74101.
26-31. Exposition of Science & Industry, Washington, D.C. 1515 Massachusetts Ave., NW., Washington, D.C., 20005.

December 1972

26-31. Exposition of Science and Industry, Washington, D.C. 1515 Massachusetts Ave. N.W., Washington, D.C., 20005.

January 1973

7-11. National Association of Home Builders Exhibition, Houston. 1625 L St., NW., Washington, D.C., 20036.
24-Feb. 4. National Boat Show, New York City. 537 Steamboat Rd., Greenwich, Conn., 06830.
28-31. Southeastern International Poultry Convention and Exhibition, Atlanta. Southeastern Poultry & Egg Association, 1456 Church St., Decatur, Ga., 31930.
29-Feb. 1. International Air Conditioning, Heating & Refrigeration Exposition, Chicago. International Exposition Co., 200 Park Ave., New York, N.Y., 10017.

February 1973

4-7. Western China, Gift, Glass, Jewelry, Toy & Housewares Show, San Francisco. 1355 Market St., San Francisco, Calif., 94103.
4-8. National Sporting Goods Association, 717 N. Michigan Ave., Chicago, Ill., 60611.
27-March 1. Material Handling Institute Show, San Francisco. 1326 Freeport Rd., Pittsburgh, Pa., 15238.

March 1973

16-18. International Stamp Exhibition—Interpex. New York City. 251 W. 57th St., New York, N.Y., 10019.

April 1973

30-May 4. Knitting Arts Exhibition, Atlantic City. R. T. Kenworthy, Inc., 866 United Nations Plaza, New York, N.Y., 10017.

May 1973

7-9. American Association of Petroleum Geologists, Conference and Exhibition, Anaheim. 1441 S. Boulder, Tulsa, Okla., 74101.

June 1973

10-13. Consumer Electronics Show, Chicago. Electronic Industries Association, 2001 Eye St. NW., Wash., D.C., 20006.
24-28. Air Pollution Control Association Show, Chicago. 4400 5th Ave., Pittsburgh, Pa., 15213.

August 1973

28-31. National Chemical Exposition, Chicago. 86 East Randolph St., Chicago, Ill., 60601.

October 1973

6-21. State Fair of Texas, Dallas. P.O. Box 26010, Dallas, Tex., 75226.
19-22. National Automatic Merchandising Association Exhibition, Chicago. 7 South Dearborn St., Chicago, Ill., 60603.
28-31. American Textile Machinery Exhibition, Greenville. Textile Hall, P.O. Box 5823, Greenville, S.C., 29606.

November 1973

12-15. Atom Fair, San Francisco. 850 3rd Ave., New York, N.Y., 10022.
26-30. Exposition of Chemical Industries, New York City. 200 Park Ave., New York, N.Y., 10017.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to specific proposals.

WTD indicates that a World Trade Directory Report containing financial and background information on the foreign firm is available for $2 from the Department of Commerce, BIC-924, Washington, D.C. 20230, or from any Commerce Field Office.

0000—DENMARK—Long-established office equipment company seeks collaboration with American firm producing **high quality consumer goods** for year-round impulse purchases. Investment may be in goods and/or capital. Firm has small showroom and office close to Copenhagen's main shopping street. Nearby shops sell high class, modest priced, consumer goods. Firm currently manufactures door plates, staples, numbering machines, rubber stamps, stamp pads, locks and keys and related lines. Write: John R. Hanson, Manager, 26 Østergade, DK-1100 Copenhagen K, Denmark. WTD. P-71480

1000, 1400—SUDAN—Joint venture for pre-investment surveys leading to **processing of chromite, iron ore and magnesite.** Company currently mining and exporting chrome from three leases in Ingassana Hills area of east central Sudan. Seeks to expand activities to produce ferrochrome. Plans development of iron ore and magnesite located nearby. Studies underway to determine feasibility of **marble cutting facility** if market potential can be established. Write: Kamal Abdelmoneim, President, Abdelmoneim Corp., P.O. Box No. 1, Khartoum, Sudan. P-71478

1043—COLOMBIA—Mining company prepared to invest $400,000 for development of **gold ore from ten mines.** Mines located in San Lucas Ridge, Bolivar State, about 200 miles south of Barranquilla. Write: Sr. Juan Illera Palacio, Apartado Aereo 54, Barranquilla, Colombia. July 1971 geological abstract with background on proposal is available from the Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. WTD. P-71476.

2821—ARGENTINA—Firm seeks joint venture for production of **polyurethane foam sheets for the bonding and flame lamination of fabrics.** Investor to contribute approximately $100,000 toward purchase of necessary machinery and equipment. Firm presently engaged in bonding and flame lamination of fabrics. Write directly to Laminadora Central S.R.L., Acevedo 1050, Buenos Aires, Argentina; or U.S. representative: Jaime B. Rozenberg, 1806 Caton Ave., Brooklyn, N.Y. 11226. WTD. P-71466

3320—ARGENTINA—Large steel foundry corporation seeking licensing agreement with manufacturer of **railroad bogies.** Firm anxious to conclude agreement to participate in call by Argentine Railroad for bids to supply 8,800 bogies for freight cars. Bid deadline Nov. 2. Write: Aceria Bragado S.A.I.C., Ruta 5, Kolometro 210, Bragado, Provincia de Buenos Aires, Argentina, or Mr. Atilio

R. Focaccia, Management Consultant, 371 Lake St., Newark, N. J. 07104. WTD. P-71479

3391—AUSTRALIA—Substantial industrial group seeks joint venture for manufacture of **various forms of chain.** Company produces and sells roller chain through comprehensive marketing organization. Particularly interested in 1) round link chain up to ⅜" diameter plus accessories, 2) high tensile sling chain, and 3) drop forged rivetless chain. Write: T.E. G. Bowden, Group Development Executive, Box 152, G.P.O. Sydney, 2001, Australia. WTD. P-71477

3519, 3711—CEYLON—The Government of Ceylon seeks proposals from bus and truck manufacturers to establish **commercial vehicle and diesel engine manufacturing plants** on a joint venture basis. Annual production estimates are 1,000 buses, 1,000 trucks, 500 marine engines and 500 industrial engines. Engines used in the trucks and buses should be capable of modification to a marine or industrial engine. Deadline for submission of proposals is 9:30 a.m., Nov. 30. For detailed requirements write: Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. P-71474

3531—ITALY—License or similar arrangement to manufacture **compactors for road construction.** Equipped to produce both vibrating and non-vibrating roller type. Firm presently makes earth dumpers, also wine and vegetable oil processing machinery. Imports and markets road construction machinery, employs about 285, including 35 salesmen. M.A.I.P. Pieralisi, S.p.A., Viale Cavallotti 30, 60035 Jesi (Ancona), Italy. WTD. P-71481

3551—ARGENTINA — Manufacturer of food processing machinery and equipment seeks licenses to produce **automatic pineapple peeling machinery, automatic peach pitting machinery, quick vacuum evaporators for apple and grape juice, fruit purees and tomato extract, and fruit and vegetable cutters.** Write directly to Director of the company, Francisco Lopez Carrillo, Talleres Metalurgicos Lopez Carrillo S.A., Sargento Cabral 151, San Jose, Guaymallen, Provincia de Mendoza, Argentina. WTD. P-71467

3585, 3589—GERMANY—Manufacturing rights or agency agreement for **air conditioning appliances, air filters and water pollution equipment.** Firm has about 2,000 employees; excellent distribution system. Write: Gunter Nitsch, Manager, Market Development, German-American Chamber of Commerce, 666 Fifth Ave., New York, N. Y. 10019 P-71463

3589 — GERMANY — Manufacturing rights for **machinery and equipment used in industrial waste water treatment.** Firm is involved in the development and production of industrial air purification systems; also makes conveying equipment. Established in 1885, employs about 500. Maschinenfabrik Hartmann AG, Waldstr. 220, 605 Offenbach, Germany. WTD. P-71468

3589—PHILIPPINES — License or joint venture to manufacture established brand of **commercial gas kitchen ranges and equipment.** Firm presently manufactures commercial gas appliances, distributes LPG. Write: Victor A. Lim, Gas Corp. of the Philippines (Gascor), P.O. Box 461, Makati Commercial Center, Makati, Rizal, Philippines. WTD. P-71464

3612, 3621, 3674—SWITZERLAND—Licenses sought by established producer in the industry to manufacture for industrial applications, **transformers; converters and inverters; electrical relays; diodes, and welding transformers** (including those to be switched on three phase network). Firm reportedly has worldwide distribution and sales facilities, and is supplier of around 5,000 European companies. Gutor AG, Attn: Mr. Pyrochta, Alberich Zwssig Strasse 49, 5430 Wettingen, Switzerland. WTD. P-71465

3642—NEW ZEALAND—Established designer and producer of table and wall lamps for residential use seeks **licenses, design and development assistance in manufacture of table and wall lighting, wall lamps, table lamps and standard lamps.** Firm plans expansion to adequately serve New Zealand and South Pacific markets. Company **not interested** in such electrical equipment as sockets, bulbs, switches, now available locally. Write: Richard Leary, Managing Director, Polygon Services (N.Z.) Ltd., 11 Portage Rd., New Lynn, Auckland (P.O. Box 19024, New Lynn, Auckland), New Zealand. WTD. P-71486

3651, 3674, 3821—POLAND—Cooperative agreements sought by industrial producers to manufacture wide range of **document copying machines; such photo-optical equipment as projectors and episcopes; electro-acoustic and solid state amplifiers; semi-conductor rectifiers and industrial electronic control equipment.** Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. P-71469

UNIDO Projects For Singapore And Abidjan Meetings Are Listed

Projects to be discussed at the previously announced investment conferences in Singapore (Nov. 3-11) and Abidjan (Nov. 24-Dec. 1), sponsored by the United National Industrial Development Organization (UNIDO), will include about 250 projects for Africa and 170 for Asia.

Details on the following projects together with lists of all announced projects may be obtained from UNIDO's New York Liaison Office, United Nations Headquarters, New York, N.Y. 10017. In ordering project information sheets or project lists stipulate country, commodity and project numbers shown below or areas for which project lists are desired.

0000—SENEGAL—Industrial zone proposed for port of Dakar by Government. Advantages claimed for planned zone include abundant manpower; good climate; industrial and commercial infrastructure; large harbor and international airport; and favorable geographic location between Europe, South America and rest of Africa. Industries developed should be (1) labor intensive, (2) produce products with raw material costs not over 30% of value of finished article, (3) export-oriented, and (4) offer new possibilities for subcontracting to existing Senegal industries. Suggested possibilities meeting criteria include **window glass, wrapping paper, leather tanning, scrap iron recovery, steel tubes, electronics equipment, assembly of air conditioners, motor vehicle components, photographic equipment, bicycles, pharmaceutical products, chemical compounds,** and others. SEN-16-71

0141—MOROCCO—Opportunities for investment in Morocco proposed for **agro-industrial fields.** Construction of large dams by Government have provided basis for irrigation of extensive areas for cultivation. Increased cultivation envisioned for **industrial crops** (cotton, niora, beets), market gardening produce, fodder crops, cereals and fruit. Also potential opportunities in **food and vegetable processing** including quick-freezing, dehydration, freeze-drying and canning. National Institute of Agronomic Research has conducted research and experiments on crops intended for sale in fresh state and for processing. Cultivation of fodder crops should lead to expansion in raising of livestock, which already has long tradition in some regions. Adjunct to livestock situation is potential for investments in dairy products which are presently imported. MOR-15-71

0192—BOTSWANA—Development Corporation proposes joint venture for **seed propagation.** Proposal envisages processing of maize and sorghum seeds and specialist seeds such as peppers, lettuce and a range of vegetable seeds for local markets and export. Proposed plant capacity set at 25,000 to 30,000 bags of 200 lbs per annum. At least 25,000 acres of irrigable land is available in a disease-free climate. Also available is seed cleaner and seed treater equipment at agricultural research station. Feasibility study on maize and sorghum market. Market study required for demand of special seeds. Foreign contribution required in equity and technical know-how. BOT-02-71

2030—TUNISIA — Government development agency proposes joint-venture for **processing fruits and vegetables.** Plant envisioned to process 25,500 tons of tomatoes, citrus fruits, apricots and grapes. Finished products to include juices, concentrates, essential oils and candied fruits. Seventy-five percent of the output would be exported. Tunisia has extensive production of fruits and vegetables. Plant would employ an average of 186 workers. Total investment estimated at $3.4 million, excluding working capital. Seeking foreign participants with established trade names and distribution networks. Feasibility study available. TUN-09-71

2034—NIGER—Government proposal for establishing factory for **dehydration of onions** with initial capacity of 600-750 tons of finished product from 6,000 tons of fresh onions. Dehydrated products would include onion slices, flakes and powder. Preliminary feasibility study available including some cost estimates. Foreign capital participation should bring in technology, management and market connections. Tax and import privileges would be available. NER-02-71

2046 — TOGO — Government planning agency proposed establishment of plant for **production of cassava chips.** Local production of cassava no problem. All production would be for export. Planning agency has market and feasibility study on project. Incentives in form of tax and import privileges available under National Investment Code. TOG-11-70 +

2051—TOGO—Proposal to establish **biscuit factory** utilizing local materials such as coconut pulp and cassava starch. Government prepared to grant tax and tariff incentives. Foreign participation should include capital, management and technology. No feasibility study presently available on this project. TOG-10-70

2083 — CHAD — Government planning agency seeks to establish **plant to produce malt from barley.** Plant capacity envisioned at 5,000 tons annually to cover domestic requirements for breweries plus exports. Estimated investment $1.2 million. Present demand, based on beer production, is estimated at approximately 800 to 1,000 tons per year, increasing by 1980 to 2,200 tons. Barley can be grown on polders of Lake Chad. Foreign contribution may include majority equity, long-term loans and management. CHD-03-71

2083—CAMEROON—Proposal to **establish a malt plant.** Output would substitute for imported malt which reached 12,000 tons in 1970. Malt presently marketed to three breweries with average output growth approximately 10% per year. Feasibility studies required, particularly on local production of barley or other suitable grain. CMR-19-71

2095—CAMEROON—Government agency proposes factory for production of **soluble coffee** using the lyophilization process with capacity of 1,000 tons per year. Production principally for export. During 1969-70 Cameroon produced nearly 28,000 tons of raw coffee and there will be adequate output for soluble plant. Total investment estimated at $3.5 million. Foreign participant bring markets and know-how for equity position. CMR-02-70+

2095—CONGO—Proposed joint venture to establish **soluble coffee plant** (estimated cost $3.5 million) using lyophilization process. Seek U.S. participant to bring in technology and established market outlets. Offer majority equity in return. Plant capacity set at 1,000 tons finished product. Green coffee available locally. Government financial resources available. CON-07-71

2099—VIETNAM—Joint venture proposed to set up facilities for **production of 600 metric tons per year of dry yeast** for bakeries. Main local material is sugar molasses, a by-product free from sugar cane refineries. In addition to technical know-how, foreign partner would bring in imported machinery in exchange for equity position. Total investment estimated at $2,004,000. Yeast presently imported. Suggested location is Bienhoa Industrial Estate, 25 km north of Saigon. Labor, land, transportation and basic utilities available at site. VIE-05-71

2299 — BOTSWANA — Government proposes establishing **handloom weaving industry** in Botswana. Products to include carpets, tapestries, curtains and wide variety of handloom goods. Production exclusively for export. Current production derived from two training centers which produce small rugs for the tourist market. Foreign contribution in equity, technology, and loans. Total investment estimated at $85,000. BOT-03-71

2400 — CAMEROON — Establishment of **woodworking industry** to utilize country's abundant timber resources. Could include manufacture of particle board, furniture, doors and window frames. Feasibility studies will be carried out in the near future with UNIDO assistance. CMR-20-71

2611—CAMEROON—Seeks foreign investor to set up **wood pulp plant.** Government can provide basic information on timber potential, transportation and availability of water; further studies needed. Foreign participant would contribute capital, technical expertise and marketing know-how. Tax and other incentives available under investment law. CMR-17-71

2620—CAMEROON—Project to establish **paper and paperboard mill;** annual capacity of 26,500 tons of finished products. Would manufacture paperboard, white and unbleached packaging materials and writing paper principally for domestic market. In initial stages paper pulp would be imported. Cost of project estimated at $11 million. CMR-18-71

2661—MOROCCO—Proposed to establish **plant to produce fibre board using eucalyptus** as a raw material. Annual capacity of 30,000 tons. Facility would be located near cellulose plant and eucalyptus forests. Cost of project estimated at $8 million. MOR-13-71

2834—TOGO—Foreign firm sought to manufacture **pharmaceutical preparations.** Approximately 552 tons of pharmaceuticals imported in 1969. Government agency presently packaging imported products for distribution. Also operates a research laboratory. TOG-17-71

2871—CONGO—Plans to set up **nitrogenous fertilizer plant** producing 90,000 tons ammonium nitrate annually. Facility would be located in Inga region where hydro-electric station is under construction. Cost of project estimated at around $23.6 million. Foreign firm would provide about 75% of capital plus technical know-how. CON-01-70+

2879—TOGO—Proposes establishment of **pesticide and insecticide plant** to serve expanding agricultural sector. Foreign investor would provide capital and technical know-how; investment incentives available. TOG-01-70+

3011—CENTRAL AFRICAN REP.—Foreign company sought to produce **tires and tubes for bicycles and motorbikes.** Planned plant capacity will be 1,000 tires and 2,000 tubes annually. Half of the production to supply local demand, balance for export market. Present number of bicycles and motorbikes estimated at about 100,000. Raw materials and labor available. CAF-05-70+

3011—CAMEROON—Proposes establishment of plant to produce **60,000 tires and tubes annually for bicycles and motorbikes.** Would essentially supply domestic market; possibly export to neighboring countries. Demand for both tubes and tires has increased considerably over past several years. Cost of project estimated at about $1.4 million. CMR-03-70+

3241—TUNISIA — Foreign collaboration in construction of **cement plant with capacity of 330,000 tons per year** is sought by the Government of Tunisia. Project is accorded high priority. Current domestic consumption is 456,000 tons and exports to Libya are expected to increase significantly. The proposed plant, including necessary equipment, would cost approximately $18 million. TUN-08-71

3461—CHAD—Factory to manufacture 350 tons of **enameled household products** for domestic needs under Five-Year Development Plan. Current demand is met entirely by imports. Estimated cost of proposed facility is $290,000. Foreign investor is asked to provide equity, know-how and long-term loans. CHD-04-71

3531—TUNISIA—Project to **manufacture and assemble agricultural machinery.** Plans call for production of 2,000 45-75 h.p. pneumatic tractors annually. Also multiple disc ploughs, harrows, multi-packers and cultivators. Local foundries could supply some parts. TUN-11-71

3574—SINGAPORE — Company formed to **manufacture calculators and, eventually, associated electronic products** seeks foreign capital of around $1 million plus management and export marketing assistance. Rented plant available in Jurong Industrial Estate. Singapore Government offers high priority, duty-free import of machinery, free capital and income repatriation and concessionary tax rate of 4% on export profits up to eight years. Proposed plant capacity is 5,500 calculators in three models, designed by team of foreign trained electronic engineers. SIN-01-71

3585—3632—CAMEROON—Plant to produce **room air conditioning units and refrigerators.** Nearly 2,000 air conditioners were imported in 1969; it is estimated that 4,000 refrigerators are imported annually. Next step is detailed feasibility study. CMR-15-70+

3714—VIETNAM—Private company organized to assemble and manufacture **motor vehicle parts and components for pick-up trucks and mini-buses** seeks know-how, licenses, equity participation of $254,000 (15%) and loan or suppliers' credit of $568,000. Plans call for import of 6,000 trucks in CBU and CKD form during first five years, employment of 100 to 200 workers, plant location on 20,000 square meters at Bienhoa Industrial Estate. Mini-bus import and production to follow that of pick-up trucks. Government of Vietnam approved project in principle on March 1. Feasibility and market studies available. VIE-02-71

3731—SENEGAL—Government proposes establishment of **shipyard for repair of oil tankers and ore carriers** by private firm in which Government would acquire financial interest. Economic study to determine infrastructure and examine components of project undertaken by the Senegalese Government with participation by private groups. Equity participation by foreign firms sought, along with technical assistance, long-term loans and, later, supplier credits. Early and tentative estimates envision total investment in excess of $25 million. SEN-15-71

3751—TUNISIA—Joint venture to **manufacture and assemble bicycles and motorbikes.** Total cost of project estimated at $2 million; foreign firm would provide capital, technical know-how. Proposed facility will have production capacity of 20,000 bicycles and equal number of motorbikes annually. TUN-10-71

Foreign Trade Opportunities

These trade opportunities are based on reports received from the U.S. Foreign Service by the Business Opportunities Staff and other units of the Bureau of Domestic Commerce (BDC), U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1967 Census of Manufacturers, used extensively by Government and industry.

U.S. firms should be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only firms or individuals with good reputations. However, the Department cannot be responsible for any trade relations.

The mark (●) indicates that this trade opportunity is a request for bids by a foreign government agency. A (★) at the end means that additional information may be borrowed by U.S. firms from the individual division of BDC. To avoid delays, requests for loan material should specify the country, commodity and foreign government agency.

WTD indicates that a World Trade Directory Report containing financial and business background information on the foreign firm is available for $2 from the U.S. Department of Commerce, BIC-924, Washington, D.C. 20230.

Licensing In U.S.

For additional information on opportunities to manufacture foreign firms' products in the U.S., write Commerce's Office of International Investment, BIC-874, Department of Commerce, Washington, D.C. 20230 (202-967-2248), referring to the appropriate file number assigned each opportunity.

3079—SWITZERLAND—A leading European plastics company offers their know-how and licenses for the manufacture of the following **plastic products:** distribution systems of gas and water, for drains, waste and similar applications. Many other plastic items are offered for use in the civil engineering, building, furniture, automotive, electrical and medical industries. **File 2055-R**

3431—SWITZERLAND—A company specializing in the manufacture of fasteners offers for licensing a novel **band suspension system for the quick installation of pipes, air ducts, ceiling supports, and similar items.** The items to be installed are hung with a special stainless steel band which is slipped through a suspension eye, adjusted at the required height and fixed with a locking device. European users reputedly consider it a real improvement. **File 2088**

3498—FINLAND—A plumbing and heating contractor has invented a **pipe branching system for joining water pipes.** He wishes to license his method and tools for manufacture in the United States. It is claimed the system cuts material costs and working time and improves quality. The tools are patented in several countries, including the U.S. **File 2089**

3531—AUSTRIA—An Austrian firm manufacturing water turbines, turbine drives, gear mechanisms, and hydraulic steel structures offers a license for the manufacturing of a **stationary rake cleaning machine with self-driving trash-rake cleaners for installation at hydropower plants, pumping stations and sewage plants.** The rakes are reported to be for heavy-duty service and high efficiency, fully automatic governor, large cleaning width, low noise level and for discharge onto platform or conveyor. **File 2090**

3536—GERMANY—An established firm making and exporting hoists, winches, hand and electric cranes, trolleys and container transporting apparatus, offers their **container transporting apparatus** for licensed manufacturing in the U.S. This equipment simplifies the handling of containers in warehouses, factories and for local transfer of containers to surface transportation, and consists of two connected but independently operating wheel mounted axles, a steering axle with fork-lift connections and a carrying axle. Each axle has a frame to hold the container which is lifted by a hand-operated hydraulic pump. **File 2091**

3611—SWITZERLAND—An established Swiss firm now manufacturing potentiometers offers licensing rights to a U.S. company for its line of trimming potentiometers (wirewound and cermet). This supplier to the electronic industries has a network of agents in 24 countries, a modern well-equipped plant in Switzerland and small manufacturing facilities in France. **File 2092**

Direct Sales

Specific foreign firms have expressed interest in direct purchases of the products below. See also the "Agencies" listing.

Field crop farms

01195 — GUATEMALA — Soybean and rapeseed, natural, for oil extraction. Algodonera Guatemalteca, S.A.-AGSA (importer, mfr.), 24 Avenida 30-39, Zona 12, Guatemala City. WTD 9/71.

Fisheries

09190 — JERUSALEM — Abalone shells used in manufacture of Mother-of-Pearl jewelry, handicrafts. Direct purchase & agency. Jabra B. Salsa & Bros. (dist., mfr., exporter), P.O. Box 43, Beit Sahur, via Israel. WTD 9/71.

Meat products

20113—ITALY—Whole carcasses of unweaned lamb, skinless, headless, and liverless, weighing 11 to 18 lb., refrigerated, but not frozen. Ferrero Giuseppe (importer, dist.), Strada Antica di Collegno 165, 10146 Torino. WTD in prep.

20118—FRANCE—Canned meats. Direct purchase & agency. Groupe Compagnie Marocaine (importer, agent, exporter), 31, rue de Mogador, 75–Paris 9. WTD in prep.

Dairy products

● **20200—CEYLON**—500 tons of infant milk powder. Bid deadline Oct. 29. The Chairman, National Milk Bd. Narahenpita Rd., Colombo 5. ★(202-967-4793).

Canning, preserving foods

20310 — FRANCE — Canned fish, crustacea, mollusks. Direct purchase & agency. Groupe Compagnie Marocaine (importer, agent, exporter), 31, rue de Mogador, 75–Paris 9. WTD in prep.

20310—ITALY — Lyophilized sea food (shrimp, shellfish). Pamir, S.r.l. (importer), Viale Tunisia 48, 20124 Milan. WTD 3/71.

20322—ITALY—Meat soups. Pamir, s.r.l. (importer), Viale Tunisia 48, 20124 Milan. WTD 3/71.

20330—ITALY—Lyophilized mushrooms. Pamir, S.r.l. (importer), Viale Tunisia 48, 20124 Milan. WTD 3/71.

20331—FRANCE—Canned fruits. Direct purchase & agency. Groupe Compagnie Marocaine (importer, agent, exporter), 31, rue de Mogador, 75–Paris 9e. WTD in prep.

20332—FRANCE — Canned vegetables. Direct purchase & agency. Groupe Compagnie Marocaine (importer, agent, exporter), 31, rue de Mogador, 75–Paris 9. WTD in prep.

Food preparations

20921—SINGAPORE—Soya bean oil. Mr. Cheo Peng Hong, Proprietor, Ngo Chew Hong Importers Exporters (importer, dist.), 8-A Amoy St., Singapore 1. WTD in prep.

20932 — ITALY — Castor oil (refined

grade). Industria Chimica di Bollate (importer), Via Privata 24 Maggio, Bollate (Milan). WTD 7/71.

20941—THAILAND—Inedible Tallow, for making soap, 40-50 long tons per shipment, with titre 40/43°C max., FFA 3% max., MIU 1% max., FAC 5-7. Requests catalogs, c.i.f. Bangkok prices. Nguan Huat Industry Co., Ltd. (importer, dist., mfr.), 54/1 Soi 65, Sukhumvit Rd., P.O. Box 11-250, Bangkok. WTD in prep.

Broad woven fabric mills, manmade fiber, silk

22218—AUSTRIA—Polyester/cotton fabrics for manufacture of men's shirts, 2nd quality, modern stripe design, in lots from 10 yds. to 10,000 yds. Samples, price quotations c.i.f. Hamburg requested; payment by L/C or Sight Draft. NOBI Waesche- und Sportbekleidungsfabrik Adolf Neumann (importer, mfr.), Mariahilferstrasse 101, A-1060 Vienna. WTD 8/71.

Conveyor belting

● **22400—INDIA**—64,919 meters of conveyor belting of woven cotton canvas fabric ranging in width from 40 mm. to 1500 mm. Bids must reach Comptroller of Purchase, Bokaro Steel Limited, P.O. Bokaro Steel City, District Dhanbad, Bihar before 11 a.m., Dec. 27. Copies of tender (No. PIV/34/Spares/Belts) and specifications (No. SPC/M/05-01) can be obtained from Comptroller of Purchase at a cost of $35.

Floor covering mills, products

22720—GREECE—Carpets, tufted. C.i.f.-Piraeus price quotations. "Dragonas" Department Stores, Attn: Leandros Dragonas, Mgr. Dir. (importer, dist., retailer), 91 Eolou & Sofocleous Sts., Athens 111. WTD 9/71.

Men's, boys' furnishings

23290—ITALY—Ski suits (men's, youths' and boys'). Sanrival (importer), Via Rutilia 2, Milan. WTD 8/71.

Women's, misses', juniors' outerwear

23393—ITALY—Women's, misses' juniors ski suits. Sanrival (importer), Via Rutilia 2, Milan. WTD 8/71.

Sawmills, planing mills

24211 — ITALY — Yellow pine. Abete di Buzzatti Geom. Aldo & Co. (importer, dist., agent), Via Porpora, 37-10155 Torino. WTD 6/71.

Millwork, veneer, plywood products, prefabricated structural wood

24320—JAMAICA — Prefinished decorative plywood panelling used in building partitioning, panelling. Direct purchase & agency. Mathew Spence Co., Attn: Roy Spence (construction), 15 Balmoral Ave., Kingston 10. WTD in prep.

Household furniture

25117—GREECE—Wood outdoor furniture. C.i.f.-Piraeus price quotations. "Dragonas" Department Stores, Attn: Leandros Dragonas, Mgr. Dir. (importer, dist., retailer), 91 Eolou & Sofocleous Sts., Athens 111. WTD 9/71.

25140—JAMAICA—Metal household furniture, especially medicine cabinets, stools, tea wagons. Quotation: c.i.f. Kingston. New Construction Ltd., Attn: William Lord (construction), 15 Caledonia Ave., Kingston 5. WTD in prep.

25143—GREECE—Porch, lawn, outdoor metal furniture. C.i.f.-Piraeus price quotations. "Dragonas" Dept. Stores, Attn: Leandros Dragonas, Man. Dir. importer, dist., ret.), 91 Eolou & Sofocleous Sts., Athens 111. WTD 9/71.

Industrial chemicals

● **28100—BURMA**—Emulsified fortified rosin size, 65%, solids, easily soluble in cold water, .05% max. insoluble matter, 10 m.t., packed in 200 kgs. first class reconditioned iron drums; aluminum sulphate, not less than 17% Al_2O_3, .1% free H_2SO_4 (max.), Fe, less than .7%, 25 m.t., packed in 25 or 50 kgs. gunny bags, having inner water proof lining; and felt, cleansing agent, 500 kgs., packed in 25 kgs., iron drums. Samples must be provided together with the quotation under separate cover. Delivery expected during the month/months before June 30. Tender No. 69(t) PF & CIB(K(71-72) 2133. Bid deadline Oct. 30. All bids should be submitted to the General Manager/Secretary, Paper Factory and Chemical Industries Board, Rangoon. Tender terms and details available from U.S. Department of Commerce, Washington, D.C. 20230 ★(202-967-3468). A review copy will also be available at the U.S. Department of Commerce Field Office, 11444 Federal Bldg., 450 Golden Gate Ave., San Francisco, Calif. 94102. Tel. 415-556-5868.

28122—THAILAND—Sodium silicate, 5 metric tons per shipment. Requests catalogs, c.i.f. Bangkok prices. Nguan Huat Industry Co., Ltd. (importer, dist., mfr.), 54/1 Soi 65, Sukhumvit Rd., P.O. Box 11-250, Bangkok. WTD in prep.

28150—SWITZERLAND—Alkylated disphenylamines, mixed, aminoanthraquinone, benzoic acid, pentachlorophenol, resorcinol. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

28180—ITALY—Sebacic acid amines, diamines. Industria Chimica di Bollate, S.p.A. (importer), Via Privata 24 Maggio, Bollate (Milan). WTD 7/71.

28182—SWITZERLAND—Sorbitol, synthetic acetone, adipic acid, monosodium glutamate, hydrazine. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

28183—SWITZERLAND—Synthetic vanillin. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

28183—THAILAND—Flavoring for margarine, 1-150 lbs. per shipment. Requests catalogs, c.i.f. Bangkok prices. Nguan Huat Industry Co., Ltd. (importer, dist., mfr.), 54/1 Soi 65, Sukhumvit Rd., P.O. Box 11-250, Bangkok. WTD in prep.

28185 — SWITZERLAND — Lactic acid, dry albumen, citronellol. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

28190—ITALY — Hydrogenation catalysts. Industria Chimica di Bollate (importer), Via Privata 24 Maggio, Bollate (Milan). WTD 7/71.

28197—SWITZERLAND — Colophonium and derivates, borates, sulfamide. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

28199—SWITZERLAND—Crude, resublimed iodine, rare earth metal salts. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

28199—TAIWAN—Nickel sulfate, nickel chloride for electro-plating. Poplar Co., Ltd. (importer, dist., agent), 33, Lane 12, Chi-lin Rd., Taipei. WTD 4/71.

28199—THAILAND—Activated clay and carbon, 10-15 tons each per shipment. Requests catalogs, c.i.f. Bangkok prices. Nguan Huat Industry Co., Ltd. (importer, dist., mfr.), 54/1 Soi 65, Sukhumvit Rd., P.O. Box 11-250, Bangkok. WTD in prep.

Synthetic materials

28212—SWITZERLAND — Regenerated cellulose. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

28214 — SWITZERLAND — Phenolics, meta cresol, para cresol. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

Soap, detergents, cleaning preparations, perfumes, cosmetics

28440—NIGERIA—Cosmetics, toiletries. Direct purchase & agency. Esther Beauty Aids Co. Ltd. (importer, dist., agent), P.O. Box 39, Yaba, Lagos. WTD 9/71.

Chemical products

28993 — THAILAND — Hydrogenated hardened palm oil, 15-20 metric tons per shipment, with melting point 50/52 C, FFA x 0.1% max., red color 2.5 max., and yellow 25 in lovibond 5.25" cell. Requests catalogs, c.i.f. Bangkok prices. Nguan Huat Industry Co., Ltd. (importer, dist., mfr.), 54/1 Soi 65, Sukhumvit Rd., P.O. Box 11-250, Bangkok. WTD in prep.

Paving, roofing materials

29523 — JAMAICA — Asphalt shingling. Quotation: c.i.f. Kingston. New Construction Ltd., Attn: William Lord (construction), 15 Caledonia Ave., Kingston 5. WTD in prep.

Structural clay products

32530—JAMAICA—Glazed ceramic tile for floors, walls. Quotation: c.i.f. Kingston. New Construction Ltd., Attn: William Lord (agent, construction), 15 Caledonia Ave., Kingston 5. WTD in prep.

Pottery, related products

32610 — JAMAICA — Vitreous china plumbing fixtures, especially closet bowls, flush tanks, lavatories, soap dishes, toilet fixtures, towel bar holders, urinals. Quotation: c.i.f. Kingston. New Construction Ltd., Attn: William Lord (construction), 15 Caledonia Ave., Kingston 5. WTD in prep.

Abrasive, asbestos, nonmetallic mineral products

32911—JAPAN—Fused alumina (raw material) for abrasive products. Requests replies from manufacturers. Nitto Industrial Co., Ltd. (mfr.), 184 Komukae, Taketoyo-cho, Chita-gun, Aichi Prefecture. WTD 8/71.

32960 — ITALY — Glassfiber thermic, acoustic insulating material for air conditioning ducts (duct liners). Tecnologie Industriali S.p.A. (importer), Via M. Macchi 27, 20124 Milano. WTD 8/70.

Steel mill products

● **33100—INDIA**—Sealed global tenders are invited on approx 626 metric tons

of stainless steel sheets and coils, types AISI-304 and AISI-316, also, on 64,000 aluminum alloy cans of 40 litre capacity. The Indian Dairy Corp., Yashkamal, 7th Floor, Lokmanya Tilak Road, Baroda 5, Gujarat. India has issued tender IDC/GT/1 with a bid deadline of Oct. 30. Copies of tenders may be purchased at Rs. 20 (approx $2.70) per tender set up to Oct. 29.

33120—ITALY—Hot and cold rolled galvanized iron coils, sheets, plates. Celestri & Co. S.p.A. (importer), Corso di Porta Romana 89, Milan. WTD 7/71.

Primary smelting, refining of nonferrous metals

33323—FRANCE—Merchant lead ingots for battery manufacture; 99.97 to 99.99 metal purity; 800 to 1,000 metric tons monthly. Prices c.i.f. Dunkirk and Casablanca, Morocco. Accumulateurs Tudor (mfr.), 16 rue de la Baume, 75-Paris 8. WTD 12/70.

Rolling, drawing, extruding of nonferrous metals

33511—TAIWAN—Brass wire for zipper chain #3 (size 2.95mm × 0.75mm), #4 (size 3.50mm × 0.9mm), #5 (size 3.9mm × 0.9mm); for bottom stop #3 (size 3.04mm × 0.45mm), #5 (size 3.50mm × 0.5mm); half round brass wire for top stop #3 (size) 2.2mm × 0.8mm), #5 (size 3.0mm × 0.8mm). Affiliated Production Training Works of Ming Chi Institute of Technology (mfr.), 1 Nanking East Rd., Sec. 2, Taipei. WTD in prep.

33521—TAIWAN—Flat aluminum wire for zipper chain #3 (size 2.95mm × 0.75mm), #4 (size 3.50mm × 0.9mm), #5 (size 3.9mm × 0.9mm); for bottom stop #3 (size 3.04mm × 0.45mm), #5 (size 3.50mm × 0.5mm); half round aluminum wire for top stop #3 (size 2.2mm × 0.8mm), #5 (size 3.0mm × 0.8mm). Affiliated Production Training Works of Ming Chi Institute of Technology (mfr.), 1 Nanking East Rd., Sec. 2, Taipei. WTD in prep.

33522 — KOREA — Aluminum strips, 0.4mm (thickness) X 700mm through 1,000 (width) which is to be reprocessed into aluminum foil for use in packaging foods, cigarettes, drugs, etc. Monthly requirement estimated at 130 m.t. Sam-A Aluminum Co., Ltd. (importer, dist., mfr.), Rm #601 Chungwhi Bldg., 33-1, 2-ka, Myung-dong, Seoul. WTD in prep.

Cutlery, hand tools, general hardware

34292 — GERMANY — Furniture hardware for store fixtures. Fritz Osterloh—Ladenbau (mfr.), 20 Daimlerstrasse, D-7254 Muenchingen near Stuttgart, Baden-Wuerttemberg. WTD 12/70.

34294 — SOUTH AFRICA — Lock sets, lock furniture. Douglas Jones & Co. (Pty.) Ltd. (importer, dist., retailer), 12-14 Crawford St., P.O. Box 265, Port Elizabeth, Cape Province. WTD 8/71.

Heating apparatus, plumbing fixtures

34310—JAMAICA—Enameled iron and metal sanitary ware. Kirkconnell Bros. Ltd., Attn: Mng. Dir. H. T. Bush (importer, agent, retailer), P.O. Box 72, Grand Cayman, Cayman Islands. WTD 7/71.

34310—JAMAICA—Enameled iron and metal sanitary ware, especially bathtubs, bathroom fixtures, stainless steel sinks. Quotation: c.i.f. Kingston. New Construction Ltd., Attn: William Lord (construction), 15 Caledonia Ave., Kingston 5. WTD in prep.

34320 — JAMAICA — Plumbing fixture fittings, trim (brass goods) especially brass or chrome-plated towel bar holders. Mathew Spence Co., Attn: Roy Spence (construction), 15 Balmoral Ave., Kingston 10. WTD in prep.

34320 — JAMAICA — Plumbing fixture fittings and trim (brass goods), especially faucets, flush valves, plumbers' brass goods, shower rods spigots, stopcocks. Quotation: c.i.f. Kingston. New Construction Ltd., Attn: William Lord (construction), 15 Caledonia Ave., Kingston 5. WTD in prep.

34320—SOUTH AFRICA—Bathroom accessories. Douglas Jones & Co. (Pty.) Ltd. (importer, dist., retailer), 12-14 Crawford St., P.O. Box 265, Port Elizabeth, Cape Province. WTD 8/71.

Fabricated structural metal products

34443 — SINGAPORE — Copper tube, aluminium sheet and galvanize sheet for room air-conditioner, evaporator and condenser: copper tube: diameter from ¼" to ⅝", by thickness 0.5mm and 0.8mm.; aluminium sheet: A-1100 P-O (JIS H4000), thickness 0.2mm x width 372 to 407mm by roll; galvanize sheet: (JIS G3142 G) 1mm x 3' x 6'. Managing Dir., Sanyo Industries (S) Pte. Ltd. (importer, mfr.), 211-A Victoria St., Singapore 7. WTD in prep.

Fabricated metal products

34944—VIET NAM—Valve seat insert tool: 110 volt, 50 cycle, 1 phase current, complete with all standard accessories. Quotations c.i.f. Saigon, catalogs requested. Direct purchase & agency. Cong Ty Mekong (importer, dist., agent), 159 Cong Hoa Blvd., Saigon. WTD 8/71.

Engines, turbines

● **35100—CANADA**—Supply four vertical shaft waterwheel generators, continuously rated at 132 mw., for Kootenay Canal Development, British Columbia. Contract No. KC 5 reference CQ 5971, bid deadline Dec. 21. Tender documents available from Office of the Manager, Purchasing Dept., British Columbia Hydro and Power Auth., 970 Burrard St., Vancouver 1, B.C., $10.50 per copy.

● **35100 — KOREA** — Supply gaskets, seals, hoper pumps, safety valves, and blades for thermal power plant at Kumsan, Korea. Invitation No. KFX-71185-PII, bid deadline Nov. 3. Office of Supply, Government of the Republic of Korea, Seoul. Specifications available on a short-term loan basis to firms domiciled in the U.S. from Power and Electrical Equipment Program, BDC-776, U.S. Department of Commerce, Washington, D.C. 20230 ★(202-967-5585).

35191—VIET NAM—Air-cooled gasolines engines: from 4 to 20 hp. Quotations c.i.f. Saigon, catalogs requested. Direct purchase & agency. Cong Ty Mekong (importer, dist., agent), 159 Cong Hoa Blvd., Saigon. WTD 8/71.

Farm machinery

35221—PHILIPPINES—One unit, wheel tractor, diesel, 10 to 20 h.p. Tomas L. Parpana, Pres., Parpana Machinery Mfg., Inc. (mfr., agriculturist), 1440 Antonio Rivera, Manila. WTD in prep.

35225—PHILIPPINES—One unit, corn harvester and sheller, small size. Tomas L. Parpana, Pres., Parpana Machinery Mfr., Inc. (mfr., agriculturist), 1440 Antonio Rivera, Manila. WTD in prep.

35228—PHILIPPINES—One unit, grain (rice) drier, small size; one unit, soybean sheller, small size. Tomas L. Parpana, Pres., Parpana Machinery Mfr., Inc. (mfr., agriculturist), 1440 Antonio Rivera, Manila. WTD in prep.

Construction, mining, materials handling machinery, equipment

● **35300 — BURMA** — Three pneumatic rock drills with attachments, two ore wagons for two-foot-gauge track, 300 yards of rails for above wagon, air compressor—250 cfm, submersible compressed air sump pump, and a rail bender. Tender No. 69/12; bid deadline Nov. 10. Director-General, Mineral Development Corp., Rangoon. Specifications available on a short term loan basis to firms domiciled in the U.S. from the General Industries Division, BDC-772, U.S. Department of Commerce, Washington, D.C. 20230. ★(202 967-4317)

● **35300 — BURMA** — Six diamond core drilling machines including bits and accessories. Tender No. 46/12; bid deadline Nov. 10. Director-General, Mineral Development Corp., Rangoon. Specifications available on a short term loan basis to firms domiciled in the U.S. from the General Industries Division, BDC-772, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-4317).

● **35300 — INDIA** — Hydraulic hoists: three of 70-metric-ton capacity; one set control equipment complete with all hydraulic and electric accessories; three sets of spare parts; one set of special erection tools and gauges; six sets of operation and maintenance manuals; services of suppliers erection engineer on daily basis. Equipment required for emergency gates for bypass tunnel control works, Beas Sutlej link project unit I and to be in accord with specification bulletin 36BLD. All bidding documents available from Chief Purchase Officer Beas Purchase Organization, Talwara Township District, Hoshiarpur, Punjab, India. Specification bulletin fee of Rs 100 (U.S. $13.33) by demand draft in favor of A.A.O. (Payment) Office of F.A. & C.A.O., Talwara Township on State Bank of India, Talwara Township. Purchase financed by IDA/World Bank Credit. Tender No. BPO/1216/P-861/36BLD; bid deadline November 25, 1971. Quotations to be FAS/FOB Port of Embarkation clearly indicating Indian agent's commission if any. Also indicate prices for Nangal Dam Railway Station and CIF Bombay. When received, copy of bid documents available for short term loan to firms domiciled in the U.S. from the General Industries Division, BDC-772, U.S. Dept. of Commerce, Washington, D.C. 20230. ★(202 967-5520). Tender documents also available from: India Supply Mission, 2536 Massachusetts Ave., N. W., Washington, D. C. 20008.

35316—ITALY—Road building/finishing machines for bituminous conglomerates used in asphalt surfacing. M.A.I.P. Pieralisi S.p.A. (importer, dist., mfr.), Viale Cavallotti 30, 60035 Jesi (Ancona). WTD 9/71.

35317—ITALY—Tractor shovel loaders, wheel type. M.A.I.P. Pieralisi S.p.A. (importer, dist., mfr.), Viale Cavallotti 30, 60035 Jesi (Ancona). WTD 9/71.

35318 — ITALY — Compactors, self-propelled rollers, motor graders. M.A.I.P. Pieralisi S.p.A. (importer, dist., mfr.), Viale Cavallotti 30, 60035 Jesi (Ancona). WTD 9/71.

35332—VENEZUELA—Parts for oilfield drilling equipment. Boulton Bros., S.A. (dist.), Calle Freites, and Apartado 4053, Puerto La Cruz, Estado Anzoátegui, Venez. WTD 9/71.

35361 — INDIA — Thirteen pneumatic hoists for mounting on jib cranes with inching mechanism for slow movement having load capacity up to 1000 kilograms, 25 electric hoist units for mounting on jib cranes with inching mechanism for slow movement and load capacity up to 5000 kilograms. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

35370 — INDIA — Twenty-five special carts for movement of materials and for assembly purposes. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

Metalworking machinery

35410—INDIA—Internal grinding machines, surface grinder, balancing machine, honing machine; wide range other metalworking machinery. Complete list available International Business Opportunities, BDC-584, Rm. 3515, U.S. Dept. of Commerce, Washington, D.C., 20230. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

35411 — VIET NAM — Cylinder boring machine: capacity 3″ to 9″, stroke 24″ with ¾ hp, 220/380 volt, 50 cycle, 3 phase motor; capacity 38m/m to 90m/m, stroke 250m/m with ½ hp, 110 volt, 50 cycle, 1 phase motor. Quotations c.i.f. Saigon, catalogs requested. Direct purchase & agency. Cong Ty Mekong (importer, dist.), 159 Cong Hoa Blvd., Saigon. WTD 8/71.

35414—VIET NAM—Polishing machine parts: cylinder hones range: from ¾″ to 2″; cylinder hones capacity: 1¾″ to 2.6″; complete with standard stone sets. Valve refacing grinder 110/220 volt, 50 cycle single phase capacity 13/64″ to 32/32″. Quotations c.i.f. Saigon, catalogs requested. Direct purchase & agency. Cong Ty Mekong (importer, dist., agent), 159 Cong Hoa, Saigon. WTD 8/71.

35451—VIET NAM—Pipe and conduct, bolt and rod threading machine: capacity ⅛″ through 2″ pipe and conduct; capacity ¼ through 2″ bolt and rod; complete set with motor ½ hp. 115 volt, 25/60 cycle, with die head and dies and stand. Quotations c.i.f. Saigon, catalogs requested. Direct purchase & agency. Cong Ty Mekong (importer, dist., agent), 159 Cong Hoa Blvd., Saigon. WTD 8/71.

35481—MEXICO—New or used sheet iron corrugating machine for handling 10 to 12 gauge material in 12 ft. widths, 2.5 centers. Industrias Monterrey, S.A. (importer, dist.), Apartado Postal 518, Monterrey, N.L. WTD 5/70.

Special industry machinery

35511 — PHILIPPINES — Machinery for packaging fresh milk: bottle filler and capper, manually operated (for small dairy unit); hand capper; cartoning machinery. Dairy Training & Research Institute, Attn: B. B. Ramin (educational institution), College, Laguna. WTD in prep.

35513—FRENCH WEST INDIES—Machinery, equipment, packages for packaging beans, rice in either plastic bags or boxes for retail sale. Gabriel Vangout & Cie (importer, dist.), 6 Quai Layrle, B.P. 149, Pointe-à-Pitre—Guadeloupe. WTD 9/71.

35513—JAMAICA—Equipment for small meat packing firm. Quotations c.i.f. Kingston. Eastern Farmers Co-operative Society, Attn: Winston Coe, Secy/Manager (farmers co-op), P.O. Box 18, Highgate P.O., St. Mary. WTD in prep.

35531—VIET NAM—Chain saws, parts. Quotations c.i.f. Saigon, catalogs requested. Direct purchase & agency. Cong Ty Mekong (importer, dist., agent), 159 Cong Hoa, Saigon. WTD 8/71.

35540 — THAILAND — Semi-automatic machinery, small type, complete set, for manufacturing printed wall-papers. Requests catalogs, technical know-how, c.i.f. Bangkok prices, turn-key basis. Progressive Design Inc. (importer, dist., interior decorator), Chalermlok Center, Rajdamri Rd., Bangkok. WTD in prep.

35552—BRAZIL—Complete printing unit, including off-set machines, electronic paper cutting machine, off-set rotative printing machine for printing of small boxes, to be used in match manufacturing plant. Fosforo da Amazônia S.A.-FASA (mfr.), Travessa Campos Sales 63, 2° andar, Belém, Pará. WTD 9/71.

35552 — JAPAN — Color chart making machine capable of gluing color samples of paint manufacturers (each in different color or shade, and in oval or square form), and sticking them in predetermined position on color chart blank. Terashima Insatsu K.K. (printer), 6-22 Zengenji-cho 2-chome, Miyakojima-ku, Osaka. WTD in prep.

35552 — JAPAN — Printers' blankets, printers' sundries. Osaka Printing Ink Mfg. Co., Ltd. (mfr., agent, retailer), Inoue Bldg., 8 Kawara-machi 1-chome, Higashi-ku, Osaka. WTD in prep.

35593—JORDAN—Plastic working machinery to manufacture polystyrene at rate of one cu. meter per block per time, with slicer to cut block to required thickness. Quotations c. & f. Agaba. Catalogs requested. Mouasher Cousins Co. (importer, dist., agent), P.O. Box 1387, Amman. WTD 7/71.

35594—JAMAICA—Machinery for making rubber bands; must be capable of making at least six sizes. Quotation c.i.f. Kingston. Franklin Chai-Chong, 11 Courtney Dr., Trafalgar Park, Kingston 10. WTD in prep.

35595 — AUSTRALIA — One machine to produce paper-covered flexible wire strips for use in sealing plastic bags of type usually provided in plastic bags. P. F. Trading Co. Pty. Ltd., Attn: Paul Fingereth (importer, agent), 117 Queen St., Brisbane, Q. 4000. WTD in prep.

35595 — BRAZIL — Complete machinery, equipment for manufacturing matches. Annual production capacity: approx. 500,000 packages of 1,200 boxes each. Fosforo da Amazônia S. A.-FASA (mfr.), Travessa Campos Sales 63, 2° andar, Belém, Pará. WTD 9/71.

35595—COLOMBIA—Clay working machinery, equipment, parts (bricks). Volume of production desired dependent partly on price of machinery. Dr. Jorge Vasquez Palacios, Mgr., Banco Popular-Sucursal Paloquemao, Calle 13 No. 31-48, Bogota. WTD in prep.

35595 — PHILIPPINES — Clayworking tools, equipment. Radcliffe Industries (mfr., exporter), 48 Renacimiento, West Triangle Homes, Diliman, Quezon City. WTD in prep.

35595—VIET NAM—Machinery, equipment to manufacture dry cells batteries; anticipated production: 15 million UM-1; 7.2 million UM-2; 4.5 million UM-3; 1 million 4.5 volt cells 1,250,000 military dry cells per each daily shift of 8 hrs. c.i.f. Saigon prices, catalogs, technical assistance requested. Cong Ty Pin Den Kwong Ming (importer, dist., mfr.), 449 Gia Phu St., Cholon. WTD in prep.

General industrial machinery

35610—INDIA—Three complete sets of electro static painting equipment. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

35642 — AUSTRALIA — Dust collection, air purification equipment/for kiln producing cement. Specifications available from International Business Opportunities, BDC-584, Rm. 3515, U.S. Dept. of Commerce, Washington, D.C. 20230. North Australia Cement Ltd., Attn: L. R. Davies-Graham (mfr.), Stuart, Q. 4810. WTD in prep.

35670—INDIA—One radio frequency 50 KHz induction hardening equipment; one high frequency 10 KHz 200 kw induction hardening equipment and one high frequency 10 KHz induction harden-

Special Actions

Each of the following trade notices is deemed to rate the special attention of American manufacturers and suppliers by the U.S. Commercial Officers overseas.

28414 — SWITZERLAND — Crude glycerin. Staerkle & Co. (importer, dist.), Kreuzstrasse 60, 8008 Zurich. WTD 9/71.

38112 — JAPAN — Instrument for detecting and measuring ozone content of air by means of chemiluminescence method. Sunny Ltd. Attn: Atsuo Matsumoto, Technical Div. (importer, dist., agent), 8-11 Uchi-Kanda 1-chome, Chiyoda-ku, Tokyo. WTD 4/71. $

38430 — SWITZERLAND — Odontostomatological specialties, all kinds; dental attachments, dental alloys, metals and amalgams; denture materials; dental waxes, cements, impression, other materials, incl. prosthetics. Requests offers from manufacturers only. Agency. Usine Genevoise de Dégrossissage d'Or, Attn: H. Vuilleumier, Comm. Dir. (importer, dist., mfr.), 4 place des Volontaires, 1211 Geneva 11. WTD 9/71.

ing equipment. Should be complete with R.F. or H.F. generator, master station or work station including scanning stations, quench presses. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

35690 — BRAZIL — Complete machinery for packaging of matches for plant with annual production capacity of about 500,000 packages of 1,200 boxes each. Fosforo da Amazônia S. A.-FASA (mfr.), Travessa Campos Sales 63, 2° andar, Belém, Pará. WTD 9/71.

35690—ISRAEL—Generators for liquid oxygen/nitrogen. Capacity 10 to 50 liters per hr.; for use in hospitals to replace oxygen bombs. GARMAC Ltd. (importer, dist., agent), 11 Montefiore St., P.O. Box 1432, Tel Aviv. WTD 5/70.

Office, computing, accounting machines

35720—INDIA—Six IBM electric typewriters, or equal. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfg., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/70.

35740 — INDIA — Electronic calculators with print-out, verityper composer machine with changeable type faces and variable spacing with automatic justification with different type plates, dry photostat copying machine; other similar equipment. Complete list available from International Business Opportunities, BDC-584, Rm. 3515, U.S. Dept. of Commerce, Washington, D.C. 20230. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

35791 — AUSTRIA — Document sorting machines. Oesterreichische Nationalbank, Attn.: Dr. Ernst Meisel (banking), Otto Wagner-Platz 3, A-1090 Vienna.

Service industry machines

● **35800—INDONESIA**—State Fisheries Enterprise, North Central Sulawesi has issued a call for sealed bids for construction of a cold storage installation in Aertembaga, North Sulawesi. Tender No. IDA-2/FDP/AT/71; bid deadline Dec. 27. Contact P.N. Perikani, North Central Sulawesi, c/o Direktorate Djenderal Perikanan, Departemen Pertanian, Djalan Salemba Raya, 16, Djakarta. Specifications are available to firms domiciled in the U.S. on a short term loan basis from the General Industries Division, BDC-772, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-5589).

35811—NETHERLANDS—Coin-operated soft-drink dispensers. Representations for Western Europe. W. van West & Zonen N.V.; Attn: R. E. Erdmann (importer, dist., mfr.), Europaweg 4, Heerde. WTD 6/71.

35852 — PORTUGAL — Air conditioning units; household, commercial. SOLASISTEM-Aquecimento e Arrefecimento Industrial e Domestico, S.A.R.L. (importer, installer), Calçada da Tapada 69, A-B, Lisbon 3. WTD in prep.

35853 — PHILIPPINES — Refrigeration machinery and equipment, industrial, for installation in barges. Victor A. Lim, President, Corporate Promotions, Inc. (business promoter), P.O. Box 461, Makati Commercial Center, Makati, Rizal. WTD in prep.

35860—NETHERLANDS — Automotive service station equipment. Exclusive representation for Benelux countries. Lebon & Visser N.V.; Attn: G. Zeldenthuis (importer), 5b Kostverlorenweg, Soest. WTD 9/71.

35892—JAPAN—Car washing machines which use hot (or warmed) water. Daiho Sangyo Co., Ltd. (importer, dist.), 1-5 Minami 1-chome, Oyodo-ku (P.O. Box 441), Osaka. WTD in prep.

35893—INDIA—One industrial vacuum cleaner. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Naka Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

Electrical transmission and distribution equipment

● **36100—KENYA** — Supply two transformers, 1000 KVA, one switchboard (11000/415V) 11 KV, and assorted cabling. Nairobi City Council, $30,000 World Bank financing. Contract No. S2, bid deadline Dec. 8. Tender documents available from Howard Humphreys and Sons, Bruce House, P.O. Box 30156, Nairobi, upon payment of $145.00 deposit to City Council, Nairobi, P.O. Box 30075.

● **36100—THAILAND**—Supply 12 kv. distribution transformers, single phase, 50 cycle, rated 12,000-240/480 volts with four 2½ percent full capacity primary taps below 12,000 volts. Tender No. MEA-PSD-257, bid deadline Nov. 8. Purchase & Stores Dept., Metropolitan Electricity Auth., 121 Chakpet Rd., Bangkok 2. Specifications available on short-term loan basis to firms domiciled in the U.S. from Power and Electrical Equipment Program, BDC-776, U.S. Department of Commerce, Washington, D.C. 20304. ★(202-967-5585).

Electrical industrial apparatus

● **36200 — ARGENTINA** — Supply four inductor shunt coils, 50 MVAR, 132 kv., outdoor type, oil-bathed, and threephase. Tender No. 3160, bid deadline Nov. 3. SEGBA, Argentine Electric Utility, Balcarce 184, Piso 4, Oficina Compras Exterior, Buenos Aires. Conditions available from SEGBA, $10 per copy.

● **36200—BURMA**—Supply of approximately 150,000 ft. welding electrodes, various sizes and types, and miscellaneous welding materials. Tender No. 45/12, bid deadline Oct. 31. Director General, Mineral Development Corp., Rangoon. Copies of specifications are available from Metalworking Equipment Program, BDC-774, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-5652).

● **36200 — BURMA** — Supply electrical equipment and other stores to the Director-General Mineral Development Corp., Rangoon, Burma, c/o Procurement Department, Yankin. Quotation No. 96/12, bid deadline Nov. 30. Specifications available on a short-term loan basis to firms domiciled in the U.S. from Power and Electrical Equipment Program. ★(202-967-5585).

● **36200—GREECE**—Supply motor generator set, complete with necessary equipment, e.g. switchgear-control, protection metering, etc. Power in the level of 300 MVA shall be supplied at voltages between 15 and 23 kv. in steps of 500 v. Inquiry No. DMKD-1002/A2, bid deadline Nov. 10. Contact Public Power Corp., 30, Chalkokondyli St., Athens (102) for instructions, or Royal Greek Embassy, 2211 Massachusetts Ave., NW., Washington, D.C. 20008. Summary of specifications available for review only at Power and Electric Equipment Program, BDC-776, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-5585).

36212—VIET NAM—Generators, alternators; single phase A/C, 115/220 volt, 50 cycle from 300 to 6300 watts. Quotations, catalogs requested. Direct purchase & agency. Cong Ty Mekong (importer, dist., agent), 159 Cong Hoa, Saigon. WTD 8/71.

36231—INDIA—One "Progressive" dual portable spot welder 75 kva, one each spot-welder gun #3, 4 and 16 or their equivalents. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

Household appliances

36311 — VENEZUELA — Household ranges, ovens; electric. Direct purchase & agency. G.A.L., C.A. (dist., agent), Edificio El Castillo, 3er piso, Chorro a Dr. Paul, and Apartado 329, Caracas. WTD 9/71.

36331—VENEZUELA—Household electric dryers. Direct purchase & agency. G.A.L., C.A. (dist., agent), Edificio El Castillo, 3er piso, Chorro a Dr. Paul, and Apartado 329, Caracas. WTD 9/71.

36340—GREECE—Electric housewares. C.i.f.-Piraeus price quotations. "Dragonas" Department Stores, Attn: Leandros Dragonas, Mgr. Dir. (importer, dist., retailer), 91 Eolou & Sofocleous Sts., Athens 111. WTD 9/71.

36343 — VENEZUELA — Household humidifiers, electric. Direct purchase & agency. G.A.L., C.A. (dist., agent), Edificio El Castillo, 3er piso, Chorro a Dr. Paul, and Apartado 329, Caracas. WTD 9/71.

36393—VENEZUELA—Household dishwashing machines, electric. Direct purchase & agency. G.A.L., C.A. (dist., agent), Edificio El Castillo, 3er piso, Chorro a Dr. Paul, and Apartado 329, Caracas. WTD 9/71.

Electrical lighting, wiring equipment

36424—SOUTH AFRICA—Marine lighting fixtures for yacht cabins, bunks, desks, etc. Electrical & Hardware (Pty.) Ltd. (importer, dist.), 112 Buitengracht St., P.O. Box 3682, Cape Town, Cape Province. WTD 8/71.

Communications equipment

36622 — IRELAND — Passive infra-red space protector. Photo-Scan (Ireland) Ltd. (importer, dist., agent), 34 Kill Abbey, Blackrock, Co. Dublin. WTD 3/71.

36623—ENGLAND—Industrial security systems (detection of intruders), any electronic type. Girling Ltd., Industrial Products Div., Attn: Richard S. Mills (importer, dist., mfr.), Grange Works, Cobran, Monmouthshire. WTD in prep.

Motor vehicles, equipment

37141—GERMANY — Automotive spare parts. Direct purchase & agency. Cor-

respondence requested in German. Wolfgang Goerhrum KG (importer, agent), 19 Ulmenstrasse, P.O. Box 60, D-7034 Maichingen, Baden-Wuerttemberg. WTD 9/70.

Engineering, laboratory, scientific & research instruments and equipment

● **38100—BURMA**—Supply of gravity meters, scintillometers, polarization equipment, field magnetometers, stereoscopes, microscopes, etc. Tender No. 48/12, bid deadline Oct. 31. Invited by the Director-General, Mineral Development Corp., Rangoon. Terms and specifications available on short-term loan basis from the Business and Scientific Equipment Division, BDC-708, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-2939).

● **38100—BURMA**—Supply of beakers, bottles, burettes, cylinder measuring polythene, funnels, flasks, mortars and pestles, pipettes, test tubes, basins, colorimeters, cylinders, tongs, brushes, tubing, and many more. Tender No. 62/12, bid deadline Nov. 10. Invited by the Director-General, Mineral Development Corp., Rangoon. Terms and specifications available on short-term loan basis from the Business and Scientific Equipment Division, BDC-708, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-2939).

● **38100—BURMA**—Supply of laboratory concentrating table, laboratory flotation machine, tongs, beakers, crucibles, spatula, burettes, balances, aspirator bottles, basins with handles, gloves, aprons, brushes, hydrometers, magnets, and more. Tender No. 73/12, bid deadline Nov. 20. Invited by the Director-General, Mineral Development Corp., Rangoon. Terms and specifications available on short-term loan basis from the Business and Scientific Equipment Division, BDC-708, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-2939).

● **38100—BURMA**—Supply of centrifuges, balances, box furnace, electric hot plate, water distilling apparatus, mercury vapor detector, flame photometer, spectrophotometer, crucible furnaces, and more. Tender No. 60/12, bid deadline Nov. 10. Invited by the Director-General, Mineral Development Corp., Rangoon. Terms and specifications available on short term loan basis from the Business and Scientific Equipment Division, BDC-708, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-2939).

● **38100—BURMA**—Supply of engineering, geological, and hydrogeological equipment including consolidometers, water level indicators, filter screens, plastic filtering flasks, double wall laboratory ovens, hot plates, balances, vacuum pumps, spatulas, metric weight sets, and many more items. Tender No. 47/12, bid deadline Nov. 10. Invited by the Director-General, Mineral Development Corp., Rangoon. Terms and specifications available on short-term loan basis from the Business and Scientific Equipment Division, BDC-708, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-2939)

● **38100—BURMA**—Supply of surveying equipment including plane auto-reduction table, prismatic and other types compasses, levels, complete with leather cases, pocket altimeters, measuring tapes, hardness scale sets, geiger counters, circular protractors, drawing boards, theodolites, pentographs, and many more. Tender No. 92/12, bid deadline Nov. 30. Invited by the Director-General, Mineral Development Corp., Rangoon. Terms and specifications available on short-term loan basis from the Business and Scientific Equipment Division, BDC-708, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-2939)

38110—ENGLAND — Instruments used for examination of polluted water (environmental test equipment). Shandon Southern Instruments Ltd. (importer, dist., mfr.), Camberley, Surrey. WTD 4/71.

Instruments for measuring, controlling, indicating physical characteristics

● **38200—INDIA**—Supply of slope indicator instruments. (Complete instrument control box carrying case & misc.) Tender No. 1214/BPO/PR/56602/I-621, bid deadline Nov. 18. Invited by Chief Purchase Officer, Beas Purchase Organization, Talwara Township, Dist. Hoshiarpur, Punjab, India. Tender documents available from India Supply Mission, 2536 Massachusetts Ave., NW., Washington, D.C. 20008.

38210—INDIA—Gear tester, gravity balance, shadowgraph, millivolt potentiometer, dewpoint analyser, pyrometer; wide variety other mechanical measuring, control devices. Complete list available International Business Opportunities, BDC-584, Rm. 3515, U.S. Dept. of Commerce, Washington, D.C. 20230. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/70.

Surgical, medical & dental instruments and supplies

● **38400—BURMA**—Supply of 50 M.S.A. miners' safety belts and 1,000 miners' helmets made of fibre glass and polythene, reinforced plastic with adjustable harness and lamp bracket, cable clip with leather chinstrap. Tender No. 82/12, bid deadline Nov. 10. Invited by the Director-General, Mineral Development Corp., Rangoon. Terms and specifications available on short-term loan basis from the Business and Scientific Equipment Division, BDC-708, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-2939)

Optical instruments, lenses

38310—INDIA—One wide field stereo microscope, 1 metallurgical microscope, 1 two cell electro photometer, 2 optical pyrometers. Larsen & Toubro Ltd., Farm Equipment Project, Attn: J. P. Nayak (mfr., agent), Powai Works, Saki-Vihar Rd., P.O. Box 8901, Bombay 72 AS. WTD 10/71.

Toys, amusement, sporting goods

39493 — ITALY — Archery equipment. Sanrival (importer), Via Rutilia 2, Milan. WTD 8/71.

Pens, pencils, office, artists' materials

39522—PHILIPPINES—Ceramic paint. Radcliffe Industries (mfr., exporter), 48 Renacimiento, West Triangle Homes, Diliman, Quezon City. WTD in prep.

Business services

73920 — NETHERLANDS — Computer software packages for following areas: efficiency improvement of computer operations; project control systems; production planning and control systems; inventory management systems; marketing models; physical distribution models; financial models; investment analysis models; hospital information systems; specialized data management systems and information storage and retrieval systems. Bureau Berenschot-Diebold; Attn: P.L.M. van Berkel (management consultants; software house), Central Station, Office floor R. 49, Amsterdam. WTD in prep.

73920 — NETHERLANDS — Software packages designed for application of mini-computers to automated processes, incl. system analysis and specification design and execution; general software packages designed to improve programming efficiency. Representations requested for Benelux countries, Germany, U. K. Intersystems N.V., Attn: G. H. Robinson (software house), Herengracht 244, Amsterdam. WTD in prep.

Visiting Buyers And Officials

AUSTRIA — Guenther Vockner, SMB-Maschinenvertrieb, F. Wageneder KG, A-4663 Laakirchen, interested in establishing U.S. sales and service organization for firm's **stone crushing machines and construction equipment.** Late Sept./Early Oct. via New York for 3-4 mos. c/o The Austrian Trade Delegate in the U.S., 845 Third Ave., 21st Floor, New York, N.Y. 10022. Itinerary: to be arranged. WTD in preparation.

BELGIUM—Daniel Lampaert, President and Managing Director, Petra Shoe, n.v., Guideo Gezellestraat, 15, 9040 Oostakker, interested in **distribution of all types of shoes.** Oct. 25 via New York for more than two weeks. Itinerary: 10/25-28 New York c/o Abbey Victoria Hotel, 7th Ave. & W. 51st St., New York, N. Y. 10019; 11/2-3 Chicago c/o Sherman House, 112 W. Randolph St., Chicago, Ill. 60601; 11/4-5 St. Louis c/o Bel Air East Motel, 4th St. & Washington, St. Louis, Mo. 63126; 11/8-9 New York. WTD 9/71.

BRAZIL — Sebastiao Correa, Requipam Comercial Importadora Ltda., Rua Herval 130, Sao Paulo, SP, interested in representing U.S. manufacturers of **industrial equipment.** Oct. 1 via New York for 30-45 days. c/o United Trade Co., 1 World Center, Suite 1347, New York, N.Y. Itinerary: to be arranged. WTD in preparation.

SWITZERLAND—Peter Nagler, a partner in Staerkle & Co., Kreuzstrasse 60, 8032 Zurich, interested in direct purchase and agencies for **lactic acid, dry albumen, colophonium and derivates crude glycerin, sorbitol, borates, phenolics such as meta cresol and para cresol, sulfamides.** Nov. 8 via New York for approx. ten days. c/o Clients Mail Dept., American Express Co., 65 Broadway, New York, N.Y. 10004. Itinerary: New York, Charleston, S.C., Los Angeles, Chicago, New York. WTD 9/71.

Agencies

Specific foreign firms have expressed interest in agency agreements for the products listed below. Exclusive agencies for these products are wanted only if specified.

Commercial farms

01130 — TAIWAN — Soybeans, corn. Cathay Transworld Trading Corp. (importer, agent, exporter), 36 Nanking West Rd., Taipei, 102. WTD in prep.

Beverage industries

20840 — SINGAPORE — Wines and brandy, including beer. Mr. Aloysius Ang, Managing Dir., Malaysia Singapore Agencies Pte. Ltd. (importer, dist., agent), 29 Harrison Rd., Singapore 13. WTD in prep.

20853—SINGAPORE — Whiskey, champagne, bourbon, rum. Mr. Aloysius Ang, Managing Dir., Malaysia Singapore Agencies Pte. Ltd. (importer, dist., agent), 29 Harrison Rd., Singapore 13. WTD in prep.

Broad woven fabric mills, manmade fiber, silk

22210 — SWITZERLAND — Manmade fibers in polyprop., polyester, polyamide, and polyacryl; manmade yarns, twines. Arthur Länzlinger (importer, dist., agent), 9602 Bazenheid. WTD 9/71.

Knitting mills, products

22513—SWITZERLAND—Women's elastic, support stockings. Correspondence requested in French. Paul Virchaux, Fabrique de Tricots Elastiques VISO (dist., mfr.), 2072 St-Blaise. WTD 9/71.

Floor covering mills, products

22790—SWITZERLAND—Carpet backings, non-woven or in polyprop. or other synthetic materials for manufacture of needle felt, tufting carpets. Arthur Länzlinger (importer, dist., agent), 9602 Bazenheid. WTD 9/71.

Textile goods

22991 — FRANCE — Non-woven textiles (industrial). Société de Distribution de Papier, S.A. (SODIPA) (dist., mfr.), Usine de Leniphun, 44-Guérande. WTD in prep.

Fabricated textile products

23963 — SWITZERLAND — Woven ribbons, tapes, straps in cotton, linen or manmade fibers for manufacture of all types of in and outside window blinds, rolling shutters, upholstered furniture. Arthur Länzlinger (importer, dist., agent), 9602 Bazenheid. WTD 9/71.

Sawmills, planing mills

24290—JAMAICA—Wooden roof shingles, redwood, untreated pine, or cedar. Mathew Spence Co., Attn: Roy Spence (construction), 15 Balmoral Ave., Kingston 10. WTD in prep.

Millwork, veneer, plywood, prefabricated structural wood products

24331 — JAMAICA — Laminated wood beams (minimum span length of 30 ft.). Mathew Spence Co., Attn: Roy Spence (construction), 15 Balmoral Ave., Kingston 10. WTD in prep.

24331 — JAMAICA — Laminated wood beams for educational buildings minimum span length of 30 ft. Peter Soares & Assoc., Attn: Peter Soares (architect), 181 Mountain View Ave., Kingston 6. WTD in prep.

Paperboard mills, products

26310—ITALY—Kraftliner for use in manufacture of laminated plastics. Salerno Guglielmo (dist.), Via S. Francesco d'Assisi 10, Milan. WTD in prep.

Publishing

27410 — JAMAICA — Encyclopedias. Mathew Spence Co., Attn: Roy Spence (construction), 15 Balmoral Ave., Kingston 10. WTD in prep.

Industrial chemicals

28122—THAILAND—Sodium carbonate (soda ash), purity 99% up, 13,000 long tons per yr., 500-1000 long tons per shipment. Requests literature, c.i.f. Bangkok prices. Kriang Krai Trading Ltd. Partnership (importer, dist.), 1018/2 Rama IV Rd., Near Wireless Circle, Bangkok 5. WTD in prep.

28151—THAILAND — Xylene. Requests literature, c.i.f. Bangkok prices. Thai Engineering & Equipment Ltd., Partnership (importer, dist., agent), 1182/1 Nakorn Chaisri Rd., Bangkok 3. WTD 3/71.

28180—SWITZERLAND—Industrial organic chemicals of all kinds; quality products for special applications of main interest. Oscar Huber & Co., Attn: Mr. Huber Jr. (dist., agent), Hochstrasse 48, P.O. Box, 8044 Zürich. WTD in prep.

28185 — THAILAND — Glycerin. Requests literature, c.i.f. Bangkok prices. Thai Engineering & Equipment Ltd., Partnership (importer, dist., agent), 1182/1 Nakron Chaisri Rd., Bangkok 3. WTD 3/71.

28190—SWITZERLAND—Quality inorganic industrial chemicals. Oscar Huber & Co., Attn: Mr. Huber Jr. (dist., agent), Hochstrasse 48, P.O. Box, 8044 Zürich. WTD in prep.

Drugs

28330—PAKISTAN — Medicinal chemicals, organic and inorganic. Requests catalogs, quotations, C. & F., Karachi. Crescent Chemists (agent), Shahrah Iraq, Karachi. WTD in prep.

28345—PAKISTAN — Pharmaceuticals, pharmaceutical preparations. Requests catalogs, quotations, C. & F., Karachi. Crescent Chemists (agent), Shahrah Iraq, Karachi-2. WTD in prep.

Agricultural chemicals

28790—TAIWAN—Insecticidal, fungicidal preparations primarily for agricultural use. Cathay Transworld Trading Corp. (importer, agent, exporter), 36 Nanking West Rd., Taipei, 102. WTD in prep.

28790—THAILAND — DDT 75% water dispersible powder for malaria eradication. Requests catalogs, c.i.f. Bangkok prices. Thai Engineering & Equipment Ltd., Partnership (importer, dist., agent), 1182/1 Nakron Chaisri Rd., Bangkok 3. WTD 3/71.

28790 — THAILAND — Agricultural insecticides, fungicides, herbicides, plant hormones. Requests catalogs, c.i.f. Bangkok prices. Parko Co., Ltd. (importer, dist.), 438 Pratumwan Circle, Phyathai Rd., P.O. Box 2562, Bangkok. WTD in prep.

Chemical products

28993—SWITZERLAND—Insulation materials, panels for flat roofing; of special interest are items made from parlite or similar inorganic materials. Corex AG, Attn: G. Klein (dist., agent), Lindenhofstrasse 28, P.O. Box, 4002 Basel. WTD in prep.

Petroleum refining

29117—TAIWAN—Lubricating oils for motor vehicle, industrial use. Cathay Transworld Trading Corp. (importer, agent, exporter), 36 Nanking West Rd., Taipei, 102. WTD in prep.

Tires, tubes

30111 — VIETNAM — Tires, tubes for trucks, passenger cars. Quotations c.i.f. Saigon, catalogs requested. Saigon International Agency Trading Co., Ltd. (agent), 836 Nguyen Trai, P.O. Box 188 Cholon. WTD in prep.

Fabricated rubber products

30690 — SWITZERLAND — Disposable rubber items for all kinds of industrial applications. Oscar Huber & Co., Attn: Mr. Huber Jr. (dist., agent), Hochstrasse 48, P.O. Box, 8044 Zürich. WTD in prep.

30694 — SINGAPORE — Flooring tiles, sheets, rubber. Mr. Sim Yong Teng, Marketing Div., Diethelm & Co. Ltd. (importer, mfr., agent), 139-149 Market St., Singapore 1, P.O. Box 191, Singapore. WTD in prep.

Plastic products

30796—SINGAPORE—Floor tiles, plastics. Mr. Sim Yong Teng, Marketing Div., Diethelm & Co. Ltd. (importer, mfr., agent), 139-149 Market St., Singapore 1, P.O. Box 191, Singapore. WTD in prep.

Structural clay products

32530—JAMAICA—Wall tile, glazed. Mathew Spence Co., Attn: Roy Spence (construction), 15 Balmoral Ave., Kingston 10. WTD in prep.

Pottery, related products

32610 — JAMAICA — Vitreous china plumbing fixtures, fittings. Kirkconnell Bros. Ltd., Attn: Mng. Dir. H. T. Bush (importer, agent, retailer), P.O. Box 72, Grand Cayman, Cayman Islands. WTD 7/71.

Abrasive, asbestos, nonmetallic mineral products

32926—SINGAPORE—Floor tiles, vinyl asbestos. Mr. Sim Yong Teng, Marketing Div., Diethelm & Co. Ltd. (importer, mfr., agent), 139-149 Market St., Singapore 1, P.O. Box 191, Singapore. WTD in prep.

32950—TAIWAN—Manganese ore. Linson Corp. (importer, agent, exporter), 1 Yung Kang St., Taipei, 106. WTD in prep.

Steel mill products

33152 — THAILAND — Steel wire for making staples. Requests samples, c.i.f. Bangkok prices. Flourishing Co., Ltd. (importer, agent), 263/2 Soi Sai Namthip (22), Sukhumvit Rd., P.O. Box 11-185, Bangkok 11. WTD 3/71.

33156—SINGAPORE—Galvanized chain links. Mr. Sim Yong Teng, Diethelm & Co. Ltd., Marketing Div. (importer, mfr., agent), 139-149, Market St., Singapore 1, P.O. Box 191. WTD in prep.

33160—VIETNAM—Iron and steel mill products including cold and hot rolled steel sheets, strips and bars. Quotations c.i.f. Saigon, brochures requested. Saigon International Agency Trading Co., Ltd. (agent), 836 Nguyen Trai, P.O. Box 180, Cholon. WTD in prep.

Cutlery, hand tools, general hardware

34230 — SWITZERLAND — Do-it-yourself tools, devices. Agency for Europe. Willy A. Amrhein (dist., agent), Alte Landstrasse 22, P.O. Box 65, 8803 Rueschlikon-Zurich. WTD 9/71.

34232 — SINGAPORE — Axes. Mr. Sim Yong Teng, Marketing Div., Diethelm & Co. Ltd. (importer, dist., mfr.), 139-149 Market St., Singapore 1, P.O. Box 191, Singapore. WTD in prep.

34290—AUSTRIA—Metal fittings, hardware used in manufacture of containers for re-export to Eastern Europe. INVIEX Ges.m.b.H. (agent), Parkring 10/IV, A-1010 Vienna. WTD 9/71.

34292 — AUSTRIA — Furniture hardware, including casters, for office, household furniture for re-export to Eastern Europe. *INVIEX* Ges.m.b.H. (agent), Parkring 10/IV, A-1010 Vienna. WTD 9/71.

34294—AUSTRIA — Builders' hardware of all types for re-export to Eastern Europe. INVIEX Ges.m.b.H. (agent), Parkring 10/IV, A-1010 Vienna. WTD 9/71.

34294—SINGAPORE—Locks for doors, drawers. Mr. Sim Yong Teng, Marketing Div., Diethelm & Co. Ltd. (importer, mfr., agent), 139-149 Market St., Singapore 1, P.O. Box 191, Singapore. WTD in prep.

Heating apparatus, plumbing fixtures

34320—JAMAICA—Plumbing fixture fittings, trim (brass goods). Kirkconnell Bros. Ltd., Attn: Mng. Dir. H. T. Bush (importer, agent, retailer), P.O. Box 72, Grand Cayman, Cayman Islands. WTD 7/71.

Fabricated structural metal products

34421—THAILAND—Accordian door fittings, aluminum tracks, steel rollers. Requests catalogs, c.i.f. Bangkok prices. Kayha Wat Ltd. Partnership (importer, dist.), 461 Nakorn Swan Rd., Tevakum Bridge, Bangkok 3. WTD in prep.

Fabricated metal products

34970—TAIWAN—Sun-protection foils. Linson Corp. (importer, agent, exporter), 1 Yung Kang St., Taipei, 106. WTD in prep.

Farm machinery

35227 — SWITZERLAND — Lawn care equipment, lawn irrigation devices. Agency for Europe. Willy A. Amrhein (dist., agent), Alte Landstrasse 22, P.O. Box 65, 8803 Rueschlikon-Zurich. WTD 9/71.

Construction, mining, materials handling machinery, equipment

35310 — SWITZERLAND — Novel construction equipment, machinery, apparatus; all kinds, except heavy duty equipment. Agency for Europe. Willy A. Amrhein (dist., agent), Alte Landstrasse 22, P.O. Box 65, 8803 Rueschlikon-Zurich. WTD 9/71.

Metalworking machinery

35421—THAILAND—Automatic machinery for making staples. Requests catalogs, c.i.f. Bangkok prices. Flourishing Co., Ltd. (importer, agent), 263/2 Soi Sai Namthip (22), Sukhumvit Rd., P.O. Box 11-185, Bangkok 11. WTD 9/71.

35480—SWITZERLAND—Small to medium auxiliary machines for metal forming, cutting operations for industrial applications. Of special interest are tools, equipment for wire, cable manufacturers. Oscar Huber & Co., Attn: Mr. Huber Jr. (dist., agent), Hochstrasse 48, P.O. Box, 8044 Zürich. WTD in prep.

Special industry machinery

35521 — SINGAPORE — Knitting machines for garment, knitting factories. Managing Dir., Chu Cheong Co., Pte. Ltd. (importer, dist., agent), 211-A, Victoria St., Singapore 7. WTD in prep.

35531—THAILAND—Woodworking machinery such as bandsaws, planers, sanding machines, edging saw machines, molding and spindle boring machines. Requests catalogs, c.i.f. Bangkok prices. Asiatic Engineering Co., Ltd. (importer, dist.), 335-337 Vorachak Rd., P.O. Box 2499, Bangkok. WTD in prep.

35550—FRANCE—Printing machinery. Etablissements B. Rossow & Cie (importer, dist., agent), 9 blvd. des Italiens, 75-Paris 2e. WTD 8/71.

35592—TAIWAN — Foundry machinery, equipment. Linson Corp. (importer, agent, exporter), 1 Yung Kang St., Taipei, 106. WTD in prep.

35595—FRANCE—Paint making machinery. Etablissements B. Rossow & Cie (importer, dist., agent), 9 blvd. des Italiens, 75-Paris 2e. WTD 8/71.

General industrial machinery

35642 — GERMANY — Purification and dust collection equipment for industrial exhaust fumes. Nukem GmbH (mfr.), Postfach 869, 645 Hanau. WTD 9/71.

35662—CANADA—Solid state variable speed drives. Exclusive agency. Douglas Power Equipment Ltd. (importer, dist., mfr.), 1308 W. 6th Ave., Vancouver, B. C. WTD 9/71.

35690—ITALY—Small packaging machines or devices (stapling machines for closing filled cartons; steel and plastic strapping machines). DIAM (importer, dist., agent), Via Marcantonio Colonna 41, 20148 Milan. WTD 7/71.

35690—TAIWAN—Filling, capping machines; wrapping and packaging machinery, such as bundling, banding and unit packaging equipment. Cathay Transworld Trading Corp. (importer, agent), 36 Nanking West Rd., Taipei, 102. WTD in prep.

Office, computing, accounting machines

35790 — ENGLAND — Office machinery complimentary to embossing tapes & machines. Rudix Systems Ltd. (importer, dist.), Rudix House, 190/196 High St., Deptford, London, S.E.8. WTD in prep.

Service industry machinery

35853 — NIGERIA — Air conditioning equipment; commercial & industrial refrigeration machinery and equipment. Requests quotations, catalogs. Adebowale Electrical Industries Ltd. (importer, dist., mfr.), 5 Shipeolu St., Ikorodu Rd., P.O. Box 1905, Lagos. WTD 10/70.

35853—TAIWAN—Air conditioning machine, 268 cooling tons and 200 cooling tons water chiller, including SD-OT starter, accessories. National-Wide Enterprise, Inc. (importer, agent, exporter), 18, Lane 105, Hangchow South Rd., Sec. 1, Taipei. WTD in prep.

35890 — GERMANY — Systems, equipment to treat poisonous industrial waste water. Nukem GmbH (mfr.), Postfach 869, 645 Hanau. WTD 9/71.

35892—ITALY—Industrial waste water treatment equipment. Standard Inox Vessel, S.p.A. (mfr.), Via Emanuele Filiberto 6, 20124 Milan. WTD in prep.

Electric transmission, distribution equipment

36112—SWEDEN—Test equipment for testing electrical, radio and communication circuits, motors. Saven AB (importer, agent), Björnsonsgatan 243, S-161 56 Bromma. WTD 9/71.

36113—SWEDEN—Electronic measuring instruments. Saven AB (importer, agent), Björnsonsgatan 243, S-161 56 Bromma. WTD 9/71.

36120—SWITZERLAND—Transformers for industrial applications. Gutor AG, Attn: Mr. Pyrochta (mfr., agent), Alberich Zwyssig Strasse 49, 5430 Wettingen. WTD 9/71.

36122 — PAKISTAN — Transformers, power and distribution. Requests catalogs, quotations, C. & F., Karachi. Enterprises Neemacia (agent), 14, Zamindar Bldg., Campbell St., Karachi. WTD 3/70.

Electrical industrial apparatus

36210 — SWITZERLAND — Convertors, invertors for industrial application. Gutor AG, Attn: Mr. Pyrochta (mfr., agent), Alberich Zwyssig Strasse 49, 5430 Wettingen. WTD 9/71.

36211—VIETNAM—Small electric motors for use with water pumps, sewing machines. Quotations c.i.f. Saigon, catalogs requested. Saigon International Agency Trading Co., Ltd. (agent), 836 Nguyen Trai, P.O. Box 188 Cholon. WTD in prep.

36220—CANADA—Photo electric controls for street lighting. Exclusive agency. Douglas Power Equipment Ltd.

(importer, dist., mfr.), 1308 W. 6th Ave., Vancouver, B. C. WTD 9/71.

36220—SWITZERLAND—Electrical relays of all kinds for industrial application. Gutor AG, Attn: Mr. Pyrochta (mfr., agent), Alberich Zwyssig Strasse 49, 5430 Wettingen. WTD 9/71.

36231 — SWITZERLAND — Welding transformers of all kinds; welding transformers to be switched on three phase network. Gutor AG, Attn: Mr. Pyrochta (mfr., agent), Alberich Zwyssig Strasse 49, 5430 Wettingen, Switzerland. WTD 9/71.

36240—VIET NAM—Carbon rods for electric welding. Quotations c.i.f. Saigon, brochures requested. Saigon International Agency Trading Co., Ltd. (agent), 836 Nguyen Trai, P.O. Box 188, Cholon. WTD in prep.

Household appliances

36322—KUWAIT—Household refrigerators. Bader A. al-Qutami (dist., agent, retailer), P.O. Box 13157, Kuwait. WTD 5/71.

36331—KUWAIT—Household washing machines. Bader A. al-Qutami (dist., agent, retailer), P.O. Box 13157, Kuwait. WTD 5/71.

36360—SINGAPORE—Industrial sewing machines, parts. Managing Dir., Chu Cheong Co., Pte. Ltd. (importer, dist., agent), 211-A Victoria St., Singapore 7. WTD in prep.

Electric lighting, wiring equipment

36420—CANADA—Assembly arrangement street lighting luminaires. Exclusive agency. Douglas Power Equipment Ltd. (importer, dist., mfr.), 1308 West 6th Ave., Vancouver, B. C. WTD 9/71.

36430—CANADA—Electric Wiring devices. Exclusive agency. Douglas Power Equipment Ltd. (importer, dist., mfr.), 1308 W. 6th Ave., Vancouver, B. C. WTD 9/71.

Radio, television receiving sets

36510—JAMAICA—Lear Jet cartridge tape recording equipment, accessories, or equal. Donald Sampson Ltd., Attn: Donald Sampson (importer, agent, retailer), 99 Harbour St., Kingston. WTD in prep.

36511—SWITZERLAND—Auto, portable, household radio and combinations; well known brands only. Naafexco Corp., Attn: H. B. Meyerhof (agent), Pilatusstrasse 38, 6052 Hergiswil. WTD in prep.

36512—KUWAIT—Household television receivers. Bader A. al-Qutami (dist., agent, retailer), P.O. Box 13157, Kuwait. WTD 5/71.

36514—SWITZERLAND—Well known hi-fi and stereo apparatus, related equipment. Company is interested in purchasing large quantities for military commissaries, similiar organizations. Naafexco Corp., Attn: H. B. Meyerhof (agent), Pilatusstrasse 38, 6052 Hergiswil. WTD in prep.

Communication equipment

36620 — ITALY — Receiving equipment for surveillance direction finding and countermeasures. Vianello S.p.A. (importer, dist., agent), Via Crivelli 12, 20122 Milan. WTD 5/70.

36621 — PORTUGAL — Portable transceivers. G. Vieira, Lda. (importer, agent), Travessa do Carvalho 15-1°, Lisbon 2. WTD 9/71.

36622—PORTUGAL—Ground and shipboard v.h.f., f.m. transceivers. G. Vieira, Lda. (importer, agent), Travessa do CArvalho 15-1°, Lisbon 2. WTD 9/71.

36625 — PORTUGAL — Echo sounders, radars, similar navigational aids. G. Vieira, Lda. (importer, agent), Travessa do Carvalho 15-1°, Lisbon 2. WTD 9/71.

Electronic components, accessories

36743—SWITZERLAND—Diodes for industrial applications. Gutor Ag, Attn: Mr. Pyrochta (mfr., agent), Alberich Zwyssig Strasse 49, 5430 Wettingen. WTD 9/71.

36795—FRANCE—U.H.F. components. SCIENTECH (importer, agent), 11 ave. Ferdinand Buisson, 75-Paris 16. WTD 6/71.

Motor vehicles, motor vehicle equipment

37141—FRANCE—Motor vehicle parts, accessories (adaptable to European vehicles). Consortium Moderne de Distribution C.M.D. (dist., agent), 17 blvd. de la Somme, 75-Paris 17. WTD 9/71.

37141—VIET NAM—Automotive parts, accessories for trucks, passenger cars including leaf springs, ball bearings. Quotations c.i.f. Saigon, catalogs requested. Saigon International Agency Trading Co., Ltd. (agent), 835 Nguyen Trai, P.O. Box 188 Cholon. WTD in prep.

Engineering, laboratory, scientific, research instruments

38112—JORDAN—Scientific equipment needed to equip newly established medical school. Prices, catalogs required. Mouasher Cousins Co. (importer, dist., agent), P.O. Box 1387, Amman. WTD 7/71.

38112—PAKISTAN—Scientific, laboratory instruments. Requests catalogs, quotations, C. & F., Karachi. Crescent Chemists (agent), Shahrah Iraq, Karachi-3. WTD in prep.

38112 — SWEDEN — Electro-optical instruments. Saven AB (importer, agent), Björnsonsgatan 243, S-161 56 Bromma. WTD 9/71.

38112—TAIWAN—Testing instruments including liquid chromatograph & gas chromatograph, pH meter, amino acid analyzer, analytical ultracentrifuge, ultrasonic universal testing machines, physical apparatus for research, laboratory, school use, etc. Tien Ho Trading Co., Ltd. (importer, agent, exporter), 18, Lane 22, Wuchang St., Sec. 1, Taipei 100. WTD in prep.

Instruments for measuring, controlling, indicating physical characteristics

38213 — GERMANY — Instruments to measure pollution in air, water. Nukem GmbH (mfr.), Postfach 869, 6450 Hanau. WTD 9/71.

38210—ITALY—Transducers (pressure, power, displacement); thermocouples, thermoresistances and accessories; compensated cables for thermocouples; pressostats; portable pyrometers. Air and water pollution control instrumentation. FAS-Automazione Strumenti (dist.), Via Koristka 8/10, 20154 Milan. WTD 6/69.

Optical instruments, lenses

38311 — TAIWAN — Scientific instruments including electron microscope, mass spectrometers, high resolution spectrometers, electron spin resonance spectrometers, infrared spectrometers, recording spectrometers, fluorescent spectrometers, atomic absorption spectrometers, etc. Tien Ho Trading Co., Ltd. (importer, agent, exporter), 18, Lane 22, Wuchang St., Sec. 1, Taipei 100. WTD in prep.

Surgical, medical, dental instruments

38410—FRANCE—Surgical, medical instruments. Continental Import Export "TECNOREX" (agent, consulting firm), 7 bis rue de Téhéran, 75-Paris 8. WTD 6/70.

38410—PAKISTAN—Surgical, medical instruments, apparatus. Requests catalogs, quotations, C. & F., Karachi. Crescent Chemists (agent), Shahrah Iraq, Karachi-3. WTD in prep.

38410—TAIWAN—Surgical, medical instruments, apparatus. Linson Corp. (importer, agent, exporter), 1 Yung Kang St., Taipei, 106. WTD in prep.

38421 — SWITZERLAND — Elastic, stretch, support varicose stockings. Correspondence requested in French. Paul Virchaux, Fabrique de Tricots Elastiques VISO (dist., mfr.), 2072 St-Blaise. WTD 9/71.

38430 — PAKISTAN — Dental instruments. Requests catalogs, quotations, C. & F., Karachi. Crescent Chemists (agent), Shahrah Iraq, Karachi-3. WTD in prep.

Photographic equipment

38611—SWITZERLAND — Still cameras (only well known items). Naafexco Corp., Attn: H. B. Meyerhof (agent), Pilatusstrasse 38, 6052 Hergiswil. WTD in prep.

38613 — SWITZERLAND — Well known motion picture cameras. Company wants to buy large quantities of well known brands. Naafexco Corp., Attn: H. B. Meyerhof (agent), Pilatusstrasse 38, 6052 Hergiswil. WTD in prep.

Toys, amusement, sporting goods

39492 — GREECE — Plastic swimming pools. C.i.f.-Piraeus price quotations. "Dragonas" Department Stores, Attn: Leondros Dragonas, Mgr. Dir. (importer, dist., retailer), 91 Eolou & Sofocleous Sts., Athens 111. WTD 9/71.

39490—SWITZERLAND — Leisure time and sporting articles, novelties only, all kinds. Agency for Europe. Willy A. Amrhein (dist., agent), Alte Landstrasse 22, P.O. Box 65, 8803 Rueschlikon-Zurich. WTD 9/71.

Manufacturing industries

39999—SWITZERLAND — Novelties, all kinds; leisure time equipment; labor-saving tools, devices for household, home use. Agency for Europe. Willy A. Amrhein (dist., agent), Alte Landstrasse 22, P.O. Box 65, 8803 Rueschlikon-Zurich. WTD 9/71.

Future Construction Abroad

CANADA—First phase of the Construction Project in Burnaby, B.C., **the senior citizens residence**, valued at $3.5 million, is expected to go to tender in late September or early October. The second phase, the office building and shopping mall, valued at $1.5 million, will be constructed about March 1972. The Area Manager of the company responsible for this $5 million project stated that U.S. suppliers are welcome to bid on such equipment as furnishings for 264 bedsitting rooms, kitchenware, dining room and lounge furniture, rugs, etc., and that all inquiries should be directed to: Mr. M. Skippon, Vancouver Area Manager, Western Realty Project Limited, 1075 W. Georgia, Vancouver, British Columbia.

GUATEMALA—The Ministry of Education will soon be undertaking an $8 million education project involving the construction of 17 new secondary schools (7 in Guatemala City and 10 in the Departments), as well as a Teacher's Training School at the University of San Carlos, and has just opened the period for prequalification of interested companies. A closing date for prequalification has not yet been set. A list of the documentation for prequalification may be obtained from the Construction & Engineering Division, BDC-742, U.S. Department of Commerce, Washington, D.C. 20230. Tel. 202-967-3602, and the U.S. Department of Commerce Field Office, 11444 Federal Bldg., 450 Golden Gate Ave., San Francisco, Calif. 94102. Tel. 415-556-5868. Additional information may be obtained from: Direccion del Proyecto de Extension y Mejoramiento del Nivel de la Ensenanza Media, la. Avenida 9-83, Zona 9, Guatemala City, Attn: Lic. Edgardo Castaneda.

JAMAICA—An American resident in Jamaica in conjunction with Jamaican partners is seeking a small-to-medium sized United States company to cost the **feasibility of providing the essential elements of a meat slaughtering, butchering, processing, and packaging operation** in western Jamaica. The organizer hopes to create a vertically-integrated meat operation to wholesale to the local and tourist markets. A minimum throughput of 5,000 head of beef per annum plus ancillary pig operations is planned. The Jamaican group would provide the financing. Barclays Bank D.C.O. will also probably be involved in the financing. Dr. Keith ROACHE, Barclays Bank, 77 King St., Kingston, has been given as a reference. If the feasibility study proves positive, then this turnkey project would involve the provision of all equipment for the new factory, the training of personnel in the technical processes, and the supervision of final production until satisfactory standards could be maintained by the locally trained staff. The American organizer is Mr. Lewis Jeffrey SELZNICK, P.O. Box 26, Darliston, Westmoreland, Jamaica. Mr. Selznick seeks an experienced firm to supply the entire meat processing and packaging plant. He would wish to inspect an existing plant in full operation before concluding negotiations.

JAMAICA — TRANS-CARIBBEAN Estates Ltd. have finalized plans for the construction of **three six-story condominium towers containing 120 studio and one-bedroom apartments at Ironshore Estate, Montego Bay.** Developers, Trans-Caribbean Estates Ltd., 34 Fort St., Montego Bay. Contact: Gen. Mgr. Richard SALM, Sales Mgr. Ron SMITH. Architects, CORY de VRIES and Associates, Freeport, Bahamas. Contractors, SHARPE CONSTRUCTION CO. LTD., Bogue Industrial Estate, Bogue, Montego Bay. The next project will be the construction of 16 town houses on the golf course. Ten three-bedroom and six two-bedroom dwellings are planned. Architects, KYDSTONE ESTATES LTD., Kingston. Probable Contractor, SHARPE CONSTRUCTION CO., LTD., Bogue Industrial Estate, Bogue, Montego Bay. Work on the golf course designed by MOOTS ASSOCIATES of Toronto is progressing, and the course should be playable by January, 1972. The three-story clubhouse designed by Kingston architects, MARVIN GOODMAN and ASSOCIATES, 5½ Waterloo Rd., should be finished by early November. A cluster of eight two-bedroom houses are reaching the roofing stage. Architects, ROY STEPHENSON AND ASSOCIATES, 144 Hope Rd., Kingston 6. Quantity Surveyors, STOPPI, CAIRNEY, BLOOMFIELD, 40 Union St., Montego Bay. Contractor, SHARPE CONSTRUCTION CO. LTD., Bogue Industrial Estate, Bogue, Montego Bay.

JAMAICA—A **J$100,000 cold storage plant** is to be constructed in the mid-island town of Mandeville by Rel Development Corp. The Managing Director of Rel, Mr. Robert Levy said that the project will offer 27,000 cubic ft. of storage space for use by hotels, restaurants and retailers. It will provide the first public cold storage facility in this growing commercial center. Construction was expected to begin in September. Financing is through the Jamaican Development Bank. Developers, Rel Development Corporation Ltd., 8 Tangerine Pl., Kingston 10. Architects, Chalmers, Gibbs & Associates, 6B Oxford Rd., Kingston 5. Contractors, Rickards Construction Limited, 11 South Race Course, Mandeville P.O. Refrigeration Contractor, Caribbean Air Conditioning Company Limited, 2 Development Rd., Kingston 11. Insulation, Plastic Products Ltd., 2 Jones Ave., Kingston 11.

JAMAICA—Ariguanabo Co. of Jamaica, Ltd., operators of the island's only textile mill, has been taken over by COLTEJER of Colombia, the largest textile manufacturer in Latin America. Coltejer, which formerly owned 50% of Ariguanabo's stock, is now taking full control. Under new ownership and management, the **mill is to be improved and expanded** with new product lines including synthetic fabrics to be added. Approximately **$7.2 million will be spent on new machinery and plant modernization.** Most of the new machinery is already on order in the United States. The mill uses about 95% American-made machinery. The dyes and chemicals for the fully-integrated (raw cotton to print) process are coming from European sources, especially West Germany. Contact: Mr. Edwin WINT, Production Manager, Ariguanabo Co. of Jamaica, Ltd., Mill Office: Fairymeade, Bog Walk Road, Spanish Town, Jamaica. Tel: 984-2322. Sales office: 18 Orange St., Kingston. Tel: 922-4600.

JAMAICA — The long-range Kingston Waterfront Redevelopment Plan has entered its first phase. The $24 million plan covers a site which is almost two miles long and a fifth of a mile wide. It envisages growth in downtown Kingston and provides for **higher-income living accommodation, the creation of a regional shopping center, office buildings, a mall, and multi-story parking garages.** Luxury condominium apartments of one, two, and three bedrooms, penthouses and garden-terrace apartments will be constructed. The first building will be a 13-story condominium block on the harbor at the foot of King St. Approx. 225,000 sq. ft. of office space will be available for lease and a further 125,000 sq. ft. is being planned for later expansion. The first 13-story office building scheduled for completion in 1972 will be located on the Ocean Boulevard (under construction) near the new Crafts Market west of King St. The second five-story building scheduled for completion in 1973 will be located about two blocks north of the Ocean Boulevard on King St. Detailed plans are available on request. Interested U.S. firms should contact: Town and Commercial Properties (Jamaica) Ltd. (Developers), 32½ Duke St., Kingston; Robertson Ward Associates (Architects), 25 Tobago Ave., Kingston 5; Higgs & Hill (Contractors), 92 Hope Rd., Kingston 6.

JAMAICA—The following **factories are currently under construction**, under the Jamaica Industrial Development Corp.'s Factory Construction Program: (1) Arc Rod, Ltd: 12,000-square-foot plant at Twickenham Park, Spanish Town. A local company, it will manufacture welding rods, with initial employment of 35. Capital investment is U.S. $144,000. JIDC Twickenham Park Industrial Estate. (2) BICC: A 42,000-square-foot extension is being constructed at British Insulated Callender's Cables Ltd.'s Old Harbour plant. A subsidiary of BICC Caribbean Ltd., the company will raise employment from 22 to 55 persons. Capital investment of the extension is U.S. $62,400. JIDC Old Harbour Industrial Estate. (3) Building Industries, Ltd: 13,000-square-foot plant at Golden Spring, St. Andrew. A subsidiary of Pillar Naco Industries of Australia, it will manufacture components for windows and the building industry, with initial employment of 30 persons. Capital investment is U.S. $240,000. JIDC Golden Spring Industrial Estate. (4) Caribbean Brush Co.: 12,000-square-foot plant at Lyssons, St. Thomas. A wholly-owned subsidiary of Industrial Commercial Development Ltd., the company will manufacture brushes and brooms with initial employment of 30 persons. Capital investment is U.S. $171,600. JIDC Industrial Estate. (5) Sportsco Jamaica, Ltd.: 6,500-square-foot plant at Twickenham Pen, Kingston. A subsidiary of Gladding Corp. of New York, the company will manufacture sporting equipment, with an initial employment of 240 persons. Capital investment is U.S. $600,000. JIDC Twickenham Pen Industrial Estate. (6)

Thermoset, Ltd.: 10,000-square-foot plant at Naggo Head, St. Catherine. A local company, it will manufacture laminated plastic sheets with initial employment of 34 people. Capital investment is U.S. $386,400. JIDC Naggo Head Industrial Estate.

KOREA—Korean press reports indicate that a consortium of Korean, American and Japanese firms may cooperate in constructing a third **zinc smelter, to be located in Yosu city**. Officers of Yong Pung, the Korean company indicated in the press, deny any firm plans, citing pollution problems and the need to import raw material as major obstacles. Officers of two ROK Ministries also asserted that the smelter would not be feasible because of pollution and for economic reasons. EPB and Yosu officials, however, are more optimistic and believe the plan will materialize.

NORWAY—The Norwegian ferro-alloy plant, Tinfos Jernverk, will begin construction of a **manganese alloy plant** at Kvinesdal, Vest Agder, estimated to cost N.Kr. 100 million. This smelting plant will be one of the largest and most modern in Europe, and will provide 80-100 jobs when the first two building stages have been completed in 1974-75. Extensive measures against pollution of air and water will be taken at Oye Smelteverk, the plant, where production will be in closed furnaces. A third building stage planned for completion in 1975 will mean 130-140 jobs. A fourth stage is contemplated for 1977-78. Each stage involves a smelting furnace of 30-32 mega-Watts. Electric power, 400-500 million kwh., sufficient for up to the third stage has been secured.

New Trade Lists

The Bureau of International Commerce has published the following Trade Lists, of which mimeographed copies may be obtained by firms domiciled in the United States from BIC-924, Department of Commerce, Washington, D.C. 20230, and from Department of Commerce Field Offices. The price is $1 per list for each country.

American Firms, Subsidiaries and Affiliates—Belgium, September 1971

Business Firms, Surinam, August 1971

Chile Gets World Bank Loan For Mobile Teaching Units

Instituto Nacional de Capacitacion Professional (INACAP), Santiago, has received a World Bank loan (No. 147-SF-CH) for the purchase of five mobile teaching units.

List One is for two mobile units with equipment for teaching general mechanics.

List Two is for two mobile units with equipment for teaching automobile mechanics.

List Three is for 1 mobile unit with equipment for teaching electronics.

The bid deadline is Nov. 12. Specifications, in Spanish, may be obtained for $3.50 from Corporacion de Fomento de la Produccion (corfo), 80 Pine St., New York, N.Y. 10005 (212-344-9800).

Other Foreign Official Tenders

ARGENTINA: The Highway Bureau invites bids for the construction of three sections of Route 7 between the towns of La Purisima and San Martin, Province of Mendoz. The budget for the project, to be partially financed by a World Bank loan, is 58.5 million Argentine pesos (one U.S. dollar equals five Argentine pesos). The deadline for the submission of bids is Nov. 10. Copies of conditions and complete technical specifications are available for 700 Argentine pesos from Direccion Nacional de Vialidad, Av. Maipu 3, Buenos Aires.

IRAQ—The Ministry of Communications has issued Tenders No. 9 and 10 for the supply construction, initial operation and maintenance of a national microwave network. Bid deadline is Feb. 15. Tender No. 9 includes radio, multiplex, power supply equipment, towers and ancillary items and Tender No. 10 includes trunk switching equipment, switchboards battery supplies and ancillary items. Copies of tender announcement and specifications are available ONLY from the PTT Administration, Al-Jumhuriya St., Baghdad. 500 Iraqi Dinars for tender No. 9 and 200 Iraqi Dinars for tender No. 10 (1 Dinar = U.S. $2.80)

MAURITANIA—The Office of Posts and Telecommunications has issued a tender for the supply and installation of a telecommunications link. Bid deadline is Dec. 31. Bid should offer on a turnkey basis a telecommunication system between Rosso, Nouakchott and Akjoujt consisting of telephone switchboards and telephone and telegraph facilities between the three cities. Copies of tender announcement and specifications are available ONLY from the Direction De L'Office Des Postes Et Telecommunications, Nouakchott, or Societe d'Etudes Et De Realisations d'Equipement De Telecommunications (Sofrecom), 8 Rue De Berri, Paris 8.

PANAMA—PJG, the Panamanian Electrical Authority, has extended the bid deadlines for the supply of the following equipment for unit four of their Las Minas Thermoelectric Plant: Steam generator and turbo generator (Bid Nos. 294 and 295) from Oct. 18 to Nov. 18. (*Commerce Today*, Sept. 6, p. 62), and (*Commerce Business Daily*, Aug. 30, p. 18).

SINGAPORE — The General Manager, Singapore Telephone Board has issued Tender No. PL/24/71 for the supply of cross connecting cabinets and cable terminal units. Bid deadline is Nov. 26. Copies of tender announcement and specifications are available from the General Manager, Singapore Telephone Board, Telephone House, Hill St., Singapore 6, or on a short-term loan basis to firms located in the U.S. from The Communication Division, BDC-720, Room 4320, U.S. Department of Commerce, Washington, D.C. 20230. ★(202-967-4823)

THAILAND — The Foreign Purchasing Section, Procurement Division, Supply and Procurement Department, Electricity Generating Authority of Thailand (EGAT), Nonthaburi, has issued Tender No. 010, with a bid deadline of Nov. 30, for aluminum and copper tubing, insulators, connectors, clamps and hardware. Bidding documents are available for public sale at $25 per set of two copies. Only suppliers in member countries of the Asian Development Bank will be considered.

Korea Amends Bidding Rules On State Contracts

Korea's Office of Supply (OSROK) has issued revised regulations, effective Aug. 1, governing the registration of firms seeking to bid on Korean Government contracts.

Firms residing outside Korea are required to submit the following: (1) application for registration; (2) relevant catalogs; and (3) a list of commodities handled.

The application for registration must be certified by the nearest Korean Mission or Consular Post and/or by a Chamber of Commerce or notary public. Firms already registered with OSROK need not renew their registration for two years from the date of current registration. Interested firms may obtain a list of documents to be submitted, and Application for Registration form SF-1, plus additional information from Mr. Joong Ho Park, Procurement Attache, Korean Consulate General, 9 East 80th St., New York, N.Y. 10021 Tel. 212-816-5077.

Saudi Arabia Offers Large Highway Construction Contract

The Saudi Arabian Ministry of Communications has announced a tender for the construction and asphalting of two roads, one from Haql to the Jordanian border (675 kilometers), the other from Turaif to Al Qurayat to Al Haditha (175 kilometers). The latter road will require two separate bids.

Tender specifications can be obtained from the Ministry of Communications, Finance Section (Roads and Ports), Riyadh, upon payment of SR 1,000 for the Haql road and SR 2,000 for each of the two sections of the Turaif road. In addition, a bank guarantee of SR 5,000, refundable up to two days prior to Nov. 23, the bid submission deadline, is required for each of the three tender documents purchased. Contractors not already approved by the Ministry must submit detailed information on financial, technical and material capabilities and previous experience along with the bids.

Interested companies are urged to take immediate action on this project.

Thailand Announces Tenders For VHF Communications Items

Thailand's Foreign Purchasing Section, Procurement Section has issued Tender No. AO11 for the supply of VHF communications equipment. Bid deadline is early December.

Copies of tender announcement and specifications are available ONLY from the Foreign Purchasing Section, Procurement Division, Supply and Procurement Department, Electricity Generating Authority of Thailand, Nonthaburi, for $25 per set of two copies.

International Business Reports

Industrial Pollution Control and International Trade. **Published by GATT. $1.50.**

In this study GATT experts first examine the cost of industrial pollution control and certain related economic questions, then go on to analyze the implications which the widespread introduction of measures for the control of industrial pollution might have for international trade.

Write: GATT Secretariat, Villa Le Bocage, Palais des Nations, Geneva 1211.

California International Business Directory. **1971. Published by the Center for International Business. 406 pp. $20.**

Formerly published by the State of California, this new edition provides a compilation of business firms (including exporters and importers) which participated in California's $8.6 billion of foreign trade in 1970. Indexes are by product, company, and SIC category. Information is provided on California services to the international business community along with an economic profile of the state.

Write: Center for International Business, Suite 938, 900 Wilshire Blvd., Los Angeles, Calif. 90017.

Einkaufs 1x1 der Deutschen Industrie. **18th Ed., 1,500 pp. $12.**

The present edition contains an alphabetical listing of 75,000 products manufactured in Germany and beneath each product the names, addresses, and telephone numbers of suppliers. The directory lists a total of 220,000 sources of supply.

Includes a listing of 12,000 trademarks, along with firms manufacturing products bearing a given trademark and an enumeration of the products manufactured under that trademark. Such information is particularly useful in those cases in which several types of products bear the same trademark, for it enables the user to determine exactly the manufacturer of a desired product. The export register also lists products in English, French, and Spanish.

Write: Deutscher Adressbuch-Verlag, Darmstadt, Germany.

International New Construction Reports. **Published weekly by Clark Associates in 17 editions covering the world except for the U.S. and Canada. Subscription, $369.20. Single copies range from $20 to $60.**

These reports are designed to assist U.S. manufacturers of industrial equipment, materials and services in expansion of international sales. Industrial, mining, utilities and oil-gas discoveries are the types of new construction projects stressed. Each project is first reported as early as possible in the planning stage.

Write: Clark Associates, P.O. Box 185, Lake Bluff, Ill. 60044.

Doing Business in Germany. **By Rudolf Mueller, Ernest Stiefel and Horst Bruecher. Sixth revised edition. Frankfurt/Main. 1971. 156 pp. $5.30.**

This is a new edition of a handbook which has been out of print for some time. New laws or important recent amendments, as well as court decisions and administrative changes, have necessitated a thorough revision of each section. The authors, well known international business lawyers, have completely rewritten the chapters on taxation and foreign commerce and have added a chapter on guaranties. The material is geared to the needs of businessmen operating or investing in the German Federal Republic or West Berlin. A detailed alphabetical index is in both English and German.

Write: Fritz Knapp Verlag, Neue Mainzer Strasse 60, 6 Frankfurt/Main, Fed. Rep. of Germany.

Calendar For World Traders

Oct. 20-22—Savannah—Sixth annual Georgia Foreign Trade Conference, DeSoto-Hilton Hotel.

Oct. 21 — Louisville — Afternoon workshop on organizing for export, Riverbluff Holiday Inn. Sponsors: SBA and Commerce's Cincinnati Field Office.

Oct. 21—New York—FCIB Drug, Chemical & Food Export Club luncheon meeting, Advertising Club, 12:15 p.m.

Oct. 21—Phoenix—In-office export workshop, Commerce Field Office, 10 a.m.-noon.

Oct. 21-22—Lake Tahoe, Nev.—Western International Trade Group's annual meeting.

Oct. 26—Lake Texoma, Okla.-Tex.—North Texas-Oklahoma REEC meeting, Lake Texoma Lodge, 9:30 a.m.-4 p.m.

Oct. 26—New York—Joint luncheon of International Executives Assn. and World Trade Club, Penthouse Room, The Summit, 51st. & Lexington.

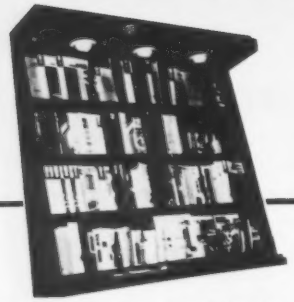
Oct. 28—Buffalo—Past President's Night of the Buffalo World Trade Assn., Buffalo Canoe Club, Bay Beach, Ontario. 6 p.m.

Oct. 29—Dallas—Session on expanding trade with Australia, Field Office, 10 a.m. Speaker: Deane Black, Australia Desk Officer, Commerce Department.

Nov. 2—Memphis—Seminar on international investment, Holiday Inn-Rivermont. Sponsors: Mid-South Exporters' Roundtable, REEC, Field Office.

Nov. 4—Cleveland—Monthly meeting of the Cleveland World Trade Assn., American Room, Mid-Day Club, noon.

Nov. 15-17—New York—National Foreign Trade Convention, Waldorf-Astoria.



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Annual subscription $15 ($6 additional for foreign mailing). Single copy 10¢.
Latest reports include:
Haiti (ET 71-089). 8pp.
Algeria (ET 71-090). 12pp.
Republic of China (ET 71-091). 12pp.
Australia (ET 71-092). 12pp.

International Marketing Information Service

Exhibitor's Export Market Guides

Nordic market for metals processing equipment/materials tops $400 mil. (IMIS 71-029). 8pp. 10¢.
Excellent sales outlook seen for U.S. medical electronic equipment in Japan (IMIS 71-031). 8pp. 10¢.
French need U.S. automation control equipment to modernize their industry (IMIS 71-035). 4pp. 10¢.
Demand for U.S. materials handling equipment increases in United Kingdom. (IMIS 71-032). 4pp. 10¢.

World Markets for U.S. Exports

Air conditioning and refrigeration equipment Australia (IMIS 71-234). 12pp. 10¢.
Industrial and scientific instruments—Netherlands (IMIS 71-235). 16pp. 10¢.

Overseas Business Reports

Annual subscription $16 ($5 additional for foreign mailing). Single copy 15¢.
Latest reports include:
Basic data on the economy of Indonesia (OBR 71-023). 32pp. Supersedes OBR 64-6.
Selling in Sweden (OBR 71-035). Supersedes OBR 66-94. 20pp.

Trade Lists

Listings of foreign business firms, classified under approximately 75 commodity and service groups, are used in locating sales outlets, sources of supply, direct market survey, and similar uses. The following is newly compiled; others are available. $1 each.

Business firms—Saudi Arabia
Business firms—Senegal
Business firms—Sierra Leone
Business firms—Singapore
Business firms—Somalia
Business firms—Tanzania
Business firms—Togo
Business firms—Trinidad and Tobago
Business firms—Tunisia

ECONOMIC AFFAIRS

Bureau of the Census Agriculture

1969 Census of Agriculture

The 1969 Census of Agriculture provides data for all farms. These data are now being issued, by county with a State summary of the individual county reports. Each report, 8pp. 25¢ Price for complete set of county reports (3,071 reports), $792. Price for complete set of State summary reports, including U.S. summary (51 reports), $12.75. The following State and County reports are available:

Missouri (115 reports). $29.
New York (62 reports). $15.75.
Pennsylvania (68 reports). $17.25.
South Dakota (68 reports). $17.25.
Report on cotton ginnings prior to September 1 for the crop of 1971, by counties. (A20: 71-1). 1p. 10¢.

Construction and Housing

Reports present statistics from the 1970 Census by blocks:

Salt Lake City, Utah urbanized area (HC (3)-252. 70pp. plus 16 maps. $3.

General Housing Characteristics

Alabama (HC(1)-A2). 104pp. $1.
Georgia (HC(1)-A-12). 112pp. $1.25.
Iowa (HC(1)-A17). 100pp. $1.25.
Mississippi (HC(1)-A26). 76pp. 75¢.
Nebraska (HC(1)-A29). 68pp. 75¢
Oklahoma (HC(1)-A38). 88pp. $1.
Wisconsin (HC(1)-A51). 108pp. $1.25.

Construction Reports

New one-family homes sold and for sale: July 1971. (C25-71-7). Annual subscription $3. Single copy prices: Monthly 10¢, annual $1.
Authorized construction Washington, D.C. area: August 1971. (C41-71-8). Annual subscription $1, single copy 10¢.

Distribution and Services

Monthly department store sales in selected areas: July 1971. (BD-71-7). Annual subscription $1. Single copy 10¢.
1970 Retail trade: (BR-70-13). 20pp. 25¢.
Monthly wholesale trade: July 1971. (BW-71-7). Annual subscription $1.50. Single copy 15¢.
Monthly retail trade: July 1971 (BR-71-7). Single copy 25¢. 36pp.
Weekly retail trade. Estimated weekly sales of U.S. retail stores week ending Sept. 30 (CB 71-358). 2pp. 10¢.

Foreign Trade

Bunker fuels: July 1971. (FT 810-71-7). Annual subscription $1. Single copy 10¢.
Exports commodity by country: June 1971. FT 410-71-6). Annual subscription $33. ($8.25 more for foreign mailing). Single copy $2.75.
Export and import merchandise: August 1971 (FT 900-71-8). Annual subscription (FT 900, 975, 985, and 986 combined) $3. Single copy 10¢.
Airborne exports and general imports: July 1971 (FT 986-71-7). Annual subscription (FT 900, 975, 985, and 986 combined) $3. Single copy 10¢.

Governments

Governmental finances in 1969-70. (GF 70 No. 5). 64pp. 60¢. Statistics for revenue collected and expenditures for all State and local governments for the 1970 fiscal year are given.

Industry

Cotton broadwoven gray goods summary for 1970: (Series MQ-22T.1(70)-5). 8pp. $1 per year. Single copy 25¢.
Tire cord and tire cord fabrics summary for 1970 (Series: MQ-22T.4(70)-5). 4pp. $1 per year. Single copy 25¢.

Change sheet

Fibrous glass: 1970 (Series: MA-32J (70)-1). 1pp. Correction on report published on July 22, 1970.

Population

1970 Census of Population

General Population Characteristics—Advance Reports:

Alabama (PC(1)-B2). 135pp. $1.25.
Michigan (PC(1)-B24). 199pp. $1.75.
Montana (PC(1)-B28). 95pp. $1.
New Hampshire (PC(1)-B31). 78pp. 60¢.
North Dakota (PC(1)-B36). 95pp. $1.25.
Oklahoma (PC(1)-B38). 131pp. $1.
Oregon (PC(1)-B39). 103pp. $1.
South Carolina (PC(1)-B42). 107pp. $1.
West Virginia (PC(1)-B50). 107pp. $1.
Estimates of the population of the United States by age and sex: July 1, 1971. (Series P-25, No. 466). 2pp. 5¢.
Current population reports issued in Series P-20, P-23, P-25, P-26, P-27, P-28 (summaries only), P-60, and P-65 are sold as a single subscription at $14 per year, $3.50 more for foreign mailing.

Maps

Negro population as percent of total population, by counties of the United States: 1970. Single copy 20¢.
Number of Negro persons, by counties of the United States: 1970. Single copy 20¢.

Number of Inhabitants

Illinois (PC(1)-A15). 88pp. 60¢.
Minnesota (PC(1)-A25). 68pp. 55¢.
Texas (PC(1)-A45). 100pp. 65¢.

1970 Census of Population and Housing

General Demographic Trends for Metropolitan Areas, 1960-70—Final Reports
California (PHC(2)-6). 68pp. 55¢.
Connecticut (PHC(2)-8). 48pp. 40¢.
Illinois (PHC(2)-15). 52pp. 35¢.
Michigan (PHC(2)-24). 48pp. 40¢.
Virginia (PHC(2)-48). 48pp. 30¢.
Ohio (PHC(2)-37). 76pp. 55¢.
Texas (PHC(2)-45). 88pp. 75¢.

SCIENCE AND TECHNOLOGY

National Oceanic and Atmospheric Administration

Environmental Data Service

Mariners weather log. Vol. 15, No. 5. Inquiries concerning distribution should be addressed to Environmental Data Service, Gramax Building (D54) 8060 —13th St., Silver Spring, Md. 20910.

National Marine Fisheries Service

Commercial Fisheries review. July-August 1971. Vol. 33, Nos. 7-8. Annual subscription $7 ($2 more for foreign mailing). Single copy 60¢. This periodical presents a comprehensive view of United States and foreign fishing industries, including catch, processing, marketing, research, and legislation.

Atlantic menhaden (brevoortia tyrannus) resource and fishery—analysis of decline (SSRF-642). 44pp. 45¢.

Dissolved nitrogen concentrations in the Columbia and Snake Rivers in 1970 and their effect on Chinook salmon and steelhead trout (SSRF-646). 16pp. 20¢.

National Ocean Survey

Earthquake information bulletin. July-August 1971, Vol. 3, No. 4. Annual subscription $1.50 (50¢ more for foreign mailing). Single copy 30¢.

United States Coast Pilot 1—Atlantic Coast, Eastport to Cape Cod. Eighth edition—1971. 312pp. $2. Sold by National Ocean Survey and its sales agents.

National Bureau of Standards

Universal testing machine of 12-million-lbf capacity at the National Bureau of Standards (Spec. Publ. 355). 18pp. 30¢. Describes the testing machine and its capability. Illustrated.

Preparation and evaluation of SRM's 481 and 482 gold-silver and gold-copper alloys for microanalysis (Spec. Publ. 260-28). 110pp. $1.

Publications of the National Bureau of Standards 1970, Supplement 2 (Spec. Publ. 305). 378 pp. $3.25. This supplement to Special Publication 305 Supplement 1 of the National Bureau of Standards lists the publications of the Bureau issued between Jan. 1 and Dec. 31, 1970.

Bibliography on atomic transition probabilities—July 1969 through June 1971 (Spec. Publ. 320, Suppl. 1). 67pp. 65¢. The papers are arranged according to elements and stages of ionization, and the method employed and classification of transitions are indicated for each reference. Only articles on discrete transitions, both allowed and forbidden, are listed.

National Standard Reference Data Center

Critical review of ultraviolet photoabsorption cross sections for molecules of astrophysical and aeronomic interest (NSRDS-NBS 38). 106pp. $1. Reprinted from "Reviews of Geophysics and Space Physics, Vol. 9, No. 2, May 1971.

The flammable fabrics program 1970 (Tech. Note 596). 68pp. 65¢. This Annual Report to the Congress, required by the Flammable Fabrics Act, covers calendar year 1970.

Voluntary Product Standards

Body measurements for the sizing of women's patterns and apparel (PS 47-70). 29pp. 40¢. This covers standard size classifications, size designations, and body measurements to aid in the consistency of sizing of women's apparel and, by doing so, provides a means for the consumer to identify her body type and size for proper fit.

Fluorinated ethylene-propylene (FEP) plastic tubing (PS 43-71). 12pp. 10¢. Covers plastic tubing made from fluorinated ethylene-propylene (FEP) resin intended for chemical, mechanical, or electrical use.

Paper ice bag sizes (PS 44-71). 12pp. 15¢. Covers the dimensions and the capacities of paper ice bags intended for use in the packaging of cubed, sized, crushed, and block ice.

Heat-shrinkable fluorocarbon plastic tubing (PS 47-71). 14pp. 20¢. Covers commercially available PTFE and FEP plastic tubing which can be reduced to a predetermined inside diameter by the application of heat.

NATIONAL TECHNICAL INFORMATION SERVICE

Order the following reports on Government-sponsored research from: National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151. Make check or money order payable to National Technical Information Service. Price for each document is $3 (microfiche 95¢) unless otherwise specified.

Analysis of the physiologic effects of microwave radiation (AD-728 397). Naval Medical Research Institute, Bethesda, Md., 72pp. Discusses electromagnetic waves as they interact with tissue, method of microwave irradiation and evaluation of exposure, temperature changes induced by microwave radiation, hematologic effects, serologic changes, changes in testicular structure and function, and effects of microwave radiation on the eye.

Progress in scientific and technical communication (COSATI) 1970 annual report (PB-202 448). Committee on Scientific and Technical Information, Washington, D.C., 156pp.

Index to NASA tech briefs—1970 (N71-28193). National Aeronautics and Space Admin., Washington, D.C., 295pp.

Publications of the management sciences department, 1969-70 (AD-729 296). Rand Corp. Santa Monica, Calif., 33pp. Bibliography (with abstracts) of publications in the following topic areas: defense research, logistics, management science theory and methodology, management systems and policy, and public policy. Sponsorship and availability information are given.

Forecasting tools for the inventory manager (AD-728 197). United States Air Force Academy, Colorado, 64pp. Provides the analysts or business manager with a working manual that includes references for further study.

The education of tomorrow's "big system" R&D managers (PB-202 535). Mitre Corp., Bedford, Mass., 16pp.

Arsenic and lead in water—a bibliography (PB-202 578). Office of Water Resources Research, Washington, D.C., 85pp. Bibliography (with abstracts) produced from the information base comprising Selected Water Resources Abstracts (SWRA) through Aug. 15. (Vol. 4, No. 16).

General Motors progress and programs in automotive emissions control (PB-201 956). General Motors Corporation report to the Environmental Protection Agency, 160pp. Reviews history of automotive emission control.

Manpower research in the 1970's—proceedings of the fourth annual summer manpower research institute (PB-202 352). Iowa State Univ., Ames, for the Manpower Admin., 244pp.

Cost-benefit analysis: theory and application to manpower training programs—a bibliography (PB-202 158). U.S. Dept. of Labor, Washington, D.C., 44pp.

The following reports concerning the treatment of drug addiction are available. Reports are primarily intended for use of project staff, program administrators, professionals, and public officials who need to understand what an addict rehabilitation project is, how it should be operated, and what may be expected of it:

Rehabilitating the narcotic addict: an evaluation of OEO-funded projects, Volume I: summary report (PB-201 657). Arthur D. Little, Inc., Cambridge, Mass, for OEO, 53pp.

Same title, Volume II: project evaluations (PB-201 658). 171pp.

Same title, Volume III: literature survey (PB-201 659). 124pp.

Social purpose taxation: a policy proposal (PB-202 194). Detroit City Plan Commission, Detroit, Mich., for HUD, 141pp.

Detailed tabulations for the manufacturing industry, U.S. metric study report, appendix E (COM-71-00517). Westat Research for the National Bureau of Standards. 448pp. Paper, $6. Contains detailed data on which the U.S. Metric Study Report on the Manufacturing Industry is based and is an appendix to that report. Report includes 45 tables giving responses by company size classes and by Standard Industrial Classification (SIC) categories to 30 questions pertinent to metrication in manufacturing as well as cross tabulations of responses to several sets of questions. The basic report will be available from Superintendent of Documents, Washington, D.C. 20402 as C13. 10:345-4.

U.S. metric study interim report: nonmanufacturing businesses, Appendix C: computer tabulations for all questions (COM-71-00689). National Bureau of Standards. 280pp.

Description and engineering characteristics of eleven new high-temperature alloys (AD-726 618). Battelle Memorial Institute for the U.S. Air Force. 44pp. Describes composition and microstructure of six nickel-base alloys, two iron-base alloys, one iron-nickel-base alloy, one cobalt-base alloy, and one multicomponent alloy that contains primarily nickel and chromium. Report discusses physical and mechanical properties, predominantly stress-rupture and creep properties, and oxidation, sulfidation, and elevated temperature stability of the alloys. Information on processing and availability of the alloys is given.

Basic solid lubricant studies (AD-727 577). Pennwalt Corp. for the U.S. Navy. 28pp. Studies solid lubricants, liquid lubricants, and lubricant additives under pressures up to 70 kilobars in a diamond high pressure cell.

Evaluation of epoxy compounds as a material for patching and protecting concrete (PB-199 792). Virginia Highway Research Council for the Federal Highway Admin. 43pp. Studies use of epoxy compounds in shallow surface repair and sealing concrete bridge decks.

Threshold noise levels (PB-200 417). Texas Transportation Institute for the Federal Highway Admin. 40pp. Examines human tolerance to noise levels created by vehicular traffic.

Lubrication considerations in gear design (N71-14785). NASA (Lewis Research Center). 35pp. Discusses method of elastohydrodynamic (EHD) film formation and how lubricant properties affect the film. Report presents an analytical method for determining EHD film thickness from theory and notes the way the film affects gear failure mode and life.

The mechanical properties of textile materials as influenced by structure and strain rate (AD-726 920). U.S. Army Natick Labs. 19pp.

Relationship of tensile and tear strengths of fabrics to component yarn properties (AD-726, 919). U.S. Army Natick Labs. 54pp. Determines relationship of breaking load, elongation, and tear strength of six selected fabrics to properties of the component yarns.

Advanced lightweight portable structural concepts for shelters, hangars and maintenance docks (AD-727 056). U. of Cincinnati, for the U.S. Air Force. 355pp. Paper, $6.

An economic analysis of proposed schedules for removal of lead additives from gasoline (PB-201 133). Bonner & Moore Assoc. for the Environmental Protection Agency. 233pp. Investigates economic impact of various gasoline removal schedules that vary in rapidity of lead removal and in the number of gasoline grades produced. A feasibility analysis of eleven schedules covers capital costs, pool octane numbers, aromatics concentrations, prime blending component requirements, and year-to-year rates of increase in gasoline volume times octane.

The following reports concerning the loss in dollars that occurs annually as a result of the effects of ozone, peroxyacetyl nitrate (PAN), nitrogen dioxide, sulfur dioxide, and fluorides on plants are available. Volume I contains background information and estimates of crop losses. Volume II gives estimated crop prices, quantities, values, and losses by state and by county:

Economic impact of air pollutants on plants, vol. I (PB-200 235). Stanford Research Institute for the Environmental Protection Agency. 74pp.

Economics of recycling metals and minerals from urban refuse (PB-200 052). U.S. Bureau of Mines. 22pp.

Same title, vol. II (PB-200 236). 552pp. Paper copy $6.

Summary of interim guidelines for disposal of surplus or waste pesticides and pesticide containers (AD-720 391). Working Group on Pesticides, Washington. 30pp.

Control of hazardous polluting substances (PB-199 193). Dept. of Transportation, 198pp. Discusses recovery of removal costs, liability limitation, financial responsibility, prevention methods, and Federal and State laws. Report includes case studies of hazardous polluting substance discharges.

Microcircuit reliability bibliography (AD-729 078). Published by IIT Research Institute's Reliability Analysis Center. 350pp. Paper, $20. Contains complete bibliographic information with abstracts for more than 1,900 references. Citations include government R&D contract reports, failure analysis reports, reliability (laboratory and field) reports, symposia proceedings, and open literature reports. Included in the bibliography is information about obtaining the reports cited, many of which are available from NTIS. Order AD-729 078.

Adjustments of the U.S. economy to reductions in military spending (AD-723 304). U.S. Arms Control and Disarmament Agency, 612pp. $9. Reviews the likely impact of reduced military expenditures on the economy of the United States and identifies some of the more pressing problems which may be encountered in the shift of resources from military to non-military uses.

Conversion of scientific and technical resources: economic challenge—social opportunity (COM-71 00605). George Washington U. for the National Bureau of Standards. 208pp. Delineates requirements which must be met to achieve conversion; appraises existing conversion programs and proposals; and presents policy recommendations pertaining to a comprehensive national conversion program.

The following reports concerning debris hazard control and cleanup program planning and operations at state, county, and local levels of government are available. Emphasis is on response of emergency service organizations, both public and private, to a highway emergency debris situation:

Highway debris hazard control and cleanup study, vol. I: Technical report (PB-199 676). System Development Corp., Santa Monica, Calif., for the National Highway Traffic Safety Admin. 172pp.

Same title, vol. II: Debris incident case studies (PB-199 677). 208pp.

Same title, vol. III: Planning and operations handbook (PB-199 678). 64pp.

The implications of lead removal from automotive fuel (PB-194 880). Commerce Technical Advisory Board Panel on Automotive Fuels and Air Pollution. 36pp. Deals primarily with technological implications.

The economics of unleaded gasoline (COM-71-00568) (Appendix to PB-194 880). 82pp.

Production of unleaded gasoline (COM-71-00566). Consultants & Engineers, Houston, for the Dept. of Commerce, 126pp. . . . Studies cost of producing various combinations of reduced-lead or unleaded gasoline in several representative refining situations.

Concept development of a prototype lightweight oil containment system for use on the high seas (AD-723 601). Johns-Manville Research and Engineering Center for the Coast Guard. 242pp.

Competition in the inter-city freight market—a waybill study of the motor carrier industry (PB-198 578). U.S. Dept. of Transportation. 150pp. Discusses kinds of commodities that motor carriers move; amount of motor-carrier traffic consisting of truckload shipments or less-than-truckload shipments; distance that traffic moves; price paid by a shipper to send traffic by common-carrier truck; and the amount that price varies with shipment weight, length of haul, and commodity being transported.

Economic analysis in equipment replacement problems (AD-722 849). By Lockheed Electronics for the U.S. Army. 158 pp. Develops methods of computing the most economical replacement age for intermittently and continuously operating equipment.

A simulation-programming approach to bank asset management in an uncertain environment (PB-198 665). UCLA, 44 pp. Formulates the multi-period bank asset management problem as a constrained, stochastic approximation problem.

Mathematical models for manpower and personnel planning (AD-722 699). By U. of Texas for the U.S. Navy, 32pp. Discusses assignment models and their dynamic extensions, stochastic models with special reference to Markoff processes, input-output and activity analysis models, and combinations and extensions with mathematical programming relations delineated.

Scientific information and copyright law (JPRS-52937). Translated from the Russian. 14 pp.

Survey report on structural design of piping systems and components (TID-25553). By Oak Ridge National Lab. for the AEC, 561pp., $6.

Discount food pricing in Washington, D.C.: staff economic report to the Federal Trade Comm. (PB-201 740). 25pp. Analyzes facts and events leading to discount pricing, economic consequences of the new price policies, and validity of consumer complaints stemming from them.

Memory: long and short term (AD-727 300). Defense Documentation Center. 286pp. Bibliography (with abstracts) containing 226 references to reports and reprints from periodicals that analyze variables which affect the information processes of short and long term human memory. Empirical and theoretical techniques which study certain measurable characteristics about human performance and its limitations are included, as well as studies concerned with the relationship of short term memory, long term memory, and learning.

Home aide service and the aged: a controlled study. Part I: Design and findings, and Part II: The service program (PB-201 373) By Benjamin Rose Inst. for the National Center for Health Service Research and Development. 305pp. $6. Studies effect of organized home aide service on dischargees from a geriatric rehabilitation hospital and on the other members of their households.

Research and development prototype for machine augmentation of human strength and endurance, Hardiman I Project (AD-724 797). By General Electric for the U.S. Navy. 56pp. Discusses a powered, jointed, loadbearing structure designed to be worn by man to augment his strength and endurance. Applications include loading and unloading cargo from vehicle to ground and vice versa, and moving cargo from place to place.

Conference on frontiers in research and practice in plain concrete (PB-199 209). Univ. of Illinois for the National Science Foundation. 44pp. Discusses the engineering challenge to concrete; recent developments in understanding the matrix of concrete; mechanics of concrete as a multiphase material; effect of extreme environment on concrete; moisture migration in concrete; and recent developments in cements.

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